

EXHIBIT B

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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UNITED STATES OF AMERICA

v.

19 CR 096 (JSR)
Daubert Hearing

SYDNEY SCALES

Defendant

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New York, N.Y.
July 13, 2021
3:00 p.m.

Before:

HON. JED S. RAKOFF

District Judge

APPEARANCES

AUDREY STRAUSS

Acting United States Attorney for the
Southern District of New York

FRANK J. BALSAMELLO

MATHEW ANDREWS

ANDREW CHAN

Assistant United States Attorney

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Attorneys for Defendant Scales

JUSTINE HARRIS

ELIZABETH JANSZKY

MICHAEL TREMONTE

ALSO PRESENT:

CLAUDIA HERNANDEZ, Paralegal Specialist (USAO)

ALARA HANCI, Paralegal Specialist (Sher Tremonte)

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(Case called)

DEPUTY CLERK: Will everyone please be seated, and will the parties please identify themselves for the record.

MR. BALSAMELLO: Good afternoon, your Honor.

Frank Balsamello, Mathew Andrews and Andrew Chan for the United States. With us at counsel table is Claudia Hernandez, a paralegal in our office.

THE COURT: Good afternoon.

MS. HARRIS: Good afternoon, your Honor.

Justine Harris, Elizabeth Janszky and Michael Tremonte. With us is Alara Hanci, a paralegal in our office, for Mr. Sidney Scales.

THE COURT: Good afternoon.

We are here on the pretrial motions filed by the defense, and the first one is the motion to preclude cell site evidence which seemed to me to call for a Daubert hearing.

Who does the government want to call as their witnesses?

MR. BALSAMELLO: The government is prepared to call multiple witnesses this afternoon. Would you like us to call first or would you like a summary of who we're calling?

THE COURT: I'm sorry?

MR. BALSAMELLO: Do you want us to call someone first or do you anticipate --

THE COURT: Who do you have altogether?

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1 MR. BALSAMELLO: The first witness, Andrew Petersohn,
2 he's an engineer for a company called DBM Engineering, his own
3 company. He has consulted for and worked for
4 telecommunications --

5 THE COURT: That's good enough. Let's get him on the
6 stand.

7 MR. BALSAMELLO: Good enough. The government calls
8 Andrew Petersohn.

9 ANDREW PETERSOHN,

10 called as a witness by the Government,

11 having been duly sworn, testified as follows:

12 DEPUTY CLERK: State your name and spell it slowly for
13 the record.

14 THE WITNESS: My name is Andrew Petersohn. Andrew,
15 common spelling. Petersohn is P-E-T-E-R-S-O-H-N.

16 THE COURT: Counsel.

17 MR. BALSAMELLO: Thank you, your Honor.

18 DIRECT EXAMINATION

19 BY MR. BALSAMELLO:

20 Q. Mr. Petersohn, where do you work?

21 A. DBM Engineering.

22 Q. What is your title?

23 A. I'm a radiofrequency engineer. I'm also the president of
24 the company.

25 Q. How long have you been president of DBM Engineering?

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1 A. 16 years.

2 Q. What generally does DBM do?

3 A. We provide a variety of design and compliance-related
4 services to the telecommunications industry.

5 Q. I do want to get to the substance of your testimony
6 quickly, but if you could give the Court a brief description of
7 your educational and employment background as it relates to the
8 field of radiofrequency and cell site design.

9 A. Sure. I have undergraduate and graduate degrees in
10 electrical engineering from Lehigh University. I'm a
11 registered professional engineer in New York State as well as
12 six other states.

13 And I have been employed with my company now for 16
14 years, and prior to that with -- directly for some of the
15 other -- some of the wireless providers, including Nextel, if
16 anyone remembers them, the company that is now Verizon
17 Wireless. At the time it was called Bell Atlantic NYNEX
18 Mobile.

19 I've also worked as a consultant in the offices of
20 Cingular Wireless, which then became AT&T. And with my firm
21 now I serve all of the major operators of cellular
22 communications as well as that entire ecosystem of
23 subcontractors.

24 Q. Are you a member of any professional organizations or
25 associations?

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1 A. I am. I'm a member of the National Society of Professional
2 Engineers; also, the Pennsylvania Society of Professional
3 Engineers, Valley Forge Chapter.

4 Q. Have you testified as an expert before?

5 A. I have.

6 Q. In what field or fields?

7 A. In the fields of radio frequency design and engineering.

8 Q. Do you have experience reviewing and analyzing service
9 providers' cell site location records?

10 A. I do.

11 Q. Have you been asked to look at specific records in
12 connection with this case?

13 A. Yes, I have.

14 Q. What providers records did you look at in connection with
15 this case?

16 A. I looked at the records of T-Mobile, Sprint and Verizon
17 Wireless.

18 Q. For what geographical area?

19 A. The West Farms area of the Bronx, south of the zoo.

20 Q. Were there also a couple of locations in Manhattan that you
21 looked at?

22 A. There were, yes.

23 Q. What time period approximately, what years?

24 A. So end of 2016 and the middle of 2017.

25 Q. Do you have an opinion as to whether analyzing such records

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1 allows an analyst to draw reliable conclusion about the general
2 area in which a phone was likely located at the time of a cell
3 site connection?

4 A. I do, yes.

5 Q. What is your opinion on that?

6 A. My opinion is that, generally speaking, an analyst can
7 determine the area of the device was located when there is a
8 connection made to the cellular network through the use of the
9 call detail record.

10 Q. Tell the Court just generally why you believe that, what
11 sort of principles you rely on, and then we'll speak about each
12 of them sequentially.

13 A. One of the fundamentals of any wireless network is that for
14 the most part the terminal or the phone or end user equipment
15 will connect to the closest site with some exceptions, but that
16 is due to the fact that the closest will generally be the
17 signal that is present to the phone that is strongest and most
18 clear.

19 THE COURT: Explain the science of that to me. What's
20 the physics of how this works?

21 THE WITNESS: Sure. So the physics is based on the
22 Friis equation, F-R-I-I-S. And in that equation there are
23 some -- there are some constants. However, the driver of that
24 equation is what's called free space path loss, and on a
25 blackboard when we look at that equation, the free space path

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1 loss will --

2 THE COURT: That's interesting, but that's not quite
3 what I meant.

4 So, let's start real basic. How does a cell phone
5 connect with a tower? Is it through waves?

6 THE WITNESS: Yes, radio waves.

7 THE COURT: And these are waves emitted by the cell
8 phone?

9 THE WITNESS: By the cell phone and by the tower.

10 THE COURT: And how do they connect?

11 THE WITNESS: So each, you know, the base station
12 equipment, which is the cell tower, has antennas, and the phone
13 also has a set of antennas. Those antennas turn the electrical
14 energy in each of those devices into radio waves that will
15 propagate, and the power of those radio waves will decrease
16 with the square of the distance.

17 THE COURT: I've often heard people say that a cell
18 phone will connect with the tower giving the strongest signal.
19 What does that mean in terms of how the waves operate?

20 THE WITNESS: So because the signal strength falls off
21 with the square of the distance, it's a rather quick decrease
22 in strength. So, generally speaking, the signal that reaches
23 the phone strongest is going to be from the closest site.

24 Now, there is potentially an area of fringe coverage
25 where there could be two sites that are equidistant, and in

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1 theory the signals should be equidistant in strength, and so
2 you could be in the middle of some coverage areas.

3 THE COURT: So what about intervening obstacles like
4 buildings?

5 THE WITNESS: They certainly play a part.

6 THE COURT: I mean, again, forgive my simple
7 mindedness, if you go down to the garage of this building, and
8 you attempt to use your cell phone, good luck. Once in a blue
9 moon, it may work. And that, I'm guessing, is because the
10 waves from wherever the nearest tower is do not penetrate down
11 to that depth through the concrete and all the other obstacles.
12 Would that be a fair assumption?

13 THE WITNESS: That's correct, yes.

14 THE COURT: Okay. So, here I am out on the street or
15 in an apartment in the Bronx, and I want to make a call, and
16 there are lots of buildings because this is New York. So if
17 the geographically nearest tower is blocked in the way we just
18 described, the signal would then seek out another tower. Do I
19 have that right?

20 THE WITNESS: That's correct. Or the other tower's
21 signal may find you.

22 THE COURT: And how far away could that other tower be
23 if there were no -- this is an overly simple model. Let's
24 assume there are all sorts of blockage to the nearest tower and
25 there's no blockage to another similar strength tower. How far

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1 away could that second tower be?

2 THE WITNESS: It really depends on the area that we're
3 talking about, which is why it's very important that you study
4 the area in which these call detail records are. And as long
5 as that's a somewhat homogenous area, all phones rise and fall
6 with the presence of environmental and manmade clutter.

7 So, in the incidence which described where you're
8 below a parking deck, all of those sites that are trying to get
9 down there are subject to the concrete and steel of that
10 building. And it would then rise, and in this case fall
11 together, and you would still likely connect to the closest
12 site.

13 In the second situation you described, again, if
14 you're shielded from one way to the site, it's very likely,
15 again, in a homogenous-type area, you're going to be shielded,
16 somewhat at least, to the site in the other direction. So
17 you'd never have -- again, in a homogenous area like we're
18 talking here in the West Farm section, you would never have
19 this extreme imbalance where we would say have a blockage on
20 this side, complete blockage, and then a direct line of sight
21 to the tower that's now further, it would be very unlikely.

22 THE COURT: Supposing the cell phone emits its waves,
23 and there's a tower close by that is partially blocked but not
24 totally, and there is a tower that's not blocked at all that's
25 giving off an even stronger signal. Which one of those two

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1 would the cell phone likely connect to?

2 THE WITNESS: Well, it would be very -- it would be an
3 abnormal situation to have a tower giving off a stronger signal
4 the way you've described that would perhaps overcome the
5 distance and that would play into that role. Generally
6 speaking, the providers like to balance the load in a
7 homogenous area so they are going to set up --

8 THE COURT: You're saying in the normal course, the
9 towers would be of equal strength?

10 THE WITNESS: Typically, that is the vanilla type
11 of -- with some notable exceptions, let's say, in a ballpark
12 scene.

13 THE COURT: Let's change the hypothetical. So now
14 there are two towers both in a general area. One is closer but
15 there's a partial blockage. The other is a little further away
16 but without blockage. And as I understand it, the cell phone
17 connection would normally go to the second of those two towers?

18 THE WITNESS: It's very possible in that situation.
19 But certainly still to that first tier of sites. I think
20 you're now describing kind of you're in between maybe in the
21 fringe area there but still closer to site A, but site B has
22 better line of site to you, then certainly you could connect to
23 site B in that case.

24 THE COURT: So, again -- and I only had freshman
25 physics, so I'm very ignorant of this -- but what causes in the

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1 hypothetical we were just discussing the cell phone connection
2 to be to the unobstructed tower? What is physically going on
3 there?

4 THE WITNESS: Well, in that case you'd have -- if you
5 can see -- if your antenna on your phone on your device can
6 actually see, has line of site to antennas on the unobstructed
7 to complete line of site, then the signal that is reaching you
8 is only going to be subject to free space path loss, whereas
9 the other site that may be closer is now going -- the signal
10 will still reach you, but it may have to penetrate some glass,
11 some steel --

12 THE COURT: I guess what I'm asking is, what causes
13 the tower signal and the cell phone signal to connect?
14 Physically what happens?

15 THE WITNESS: The radio waves will -- let's say you're
16 receiving a phone call --

17 THE COURT: The radio waves come together so they
18 become a single wave?

19 THE WITNESS: No. There's a lot of handshaking that
20 goes on when we are making a call. Let's say we're receiving a
21 phone call, the network is always kind of in touch with your
22 phone. We don't record this information because it's not
23 useful for billing, but the network is always aware, generally
24 speaking, of the area you're in. So, when someone tries to
25 call you, there's a paging signal that's sent out on the

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1 transmit path from the tower, so that your phone is going to
2 then receive that. It's going to say "I'm over here, I'm
3 seeing this, you know, tower A with best strength." The system
4 is then going to allocate a control channel to you on tower A
5 and then set you up on a voice channel after some paging and
6 handshaking, and your phone rings, and there's a ringback tone
7 on the other end. You pick up. So all this handshaking goes
8 on over the air with this back-and-forth, transmit and receive,
9 transmit and receive.

10 THE COURT: So on my cell phone, and I suspect on
11 yours, there's a little thing that shows by bars how strong the
12 signal is, or how weak. So if the connection to the nearest
13 tower would, because of obstructions, show two bars, and the
14 connection it made to the slightly farther away tower, but less
15 obstructed tower, would show three bars, why does the signal go
16 to the three bar? What causes it not to go to the closest one
17 even though it won't be a great connection as opposed to the
18 further one that will be a better connection, if that's what
19 happens.

20 THE WITNESS: The cell phone and the network are
21 constantly monitoring and reporting what tower we see not only
22 strongly but more clearly, so less -- better signal to noise.

23 THE COURT: So it's programmed to seek out the best
24 connection?

25 THE WITNESS: Yes, that's one of the fundamentals of

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1 these networks is that the device seeks not the closest but the
2 best connection, and that can also -- there could also be
3 traffic loading that comes into play there. You may have a
4 close site that's the best, strongest, clearest, but may be
5 loaded, in which case you may be shed to the second closest,
6 but never really out of that first tier of sites that surrounds
7 you. It would be very rare.

8 THE COURT: If there are a bunch of towers, how do you
9 know which one, if you can know, which one it's connecting to?

10 THE WITNESS: When you ask that question, do you mean
11 as a user or as a --

12 THE COURT: No. No. No. So I am making a call on my
13 cell phone, and all I know is the call goes through. But what
14 I don't know is which tower it's connecting to. And in my
15 hypothetical, maybe there are three towers in the area. So is
16 it that -- is there a document or a recording, I should say, at
17 the tower it's connecting to that says, yes, you've connected
18 to this tower?

19 THE WITNESS: There is, and that takes the form of the
20 call detail record.

21 THE COURT: How is that physically made, that
22 notation, so to speak?

23 THE WITNESS: It's recorded in an automated fashion by
24 the provider, and it's done mainly for billing purposes.

25 THE COURT: Okay. That exhausts my questions for the

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1 phone. Go ahead, counsel.

2 MR. BALSAMELLO: Thank you, your Honor.

3 And you covered many several of the topics that we
4 would so I'm going to try to not repeat anything here, but
5 maybe supplement a little bit.

6 BY MR. BALSAMELLO:

7 Q. Mr. Petersohn, you alluded to a principle that phones are
8 trying to connect to the closest and clearest signal?

9 A. Yes.

10 Q. Why is that?

11 A. Well, if that weren't the case, we could never have the
12 advanced networks or even the primitive networks that we can
13 all remember with bag phones and car phone boosters. It is a
14 fundamental requirement that these devices connect to the
15 strongest, clearest signal, and that's because one of the
16 premises of the cellular network, the reason it's called a
17 cellular network is because each facility is designed to cover
18 a cell, a geographical area that surrounds it.

19 With sectorized sites, which is typical of
20 three-sectored sites, that cell will look like a hexagon in the
21 direction that the antennas are pointing, and there will be
22 three cells around a site. If we go back to the Eighties when
23 sites were predominantly omnidirectional, that cell was more of
24 a circular shape around it. But, nonetheless, the facilities
25 are designed to cover that geographical area and just a little

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1 bit more, that way we can have handoffs between sites. That
2 way, when you drive away from site A, you can connect to site
3 B, so there's that overlap.

4 But without that fundamental design, we would never be
5 able to reuse frequencies and reuse codes to allow for the
6 leveraging of the assets in terms of the frequency spectrum
7 that the operators have to work with.

8 Q. Are there industry-wide standards for how that is
9 programmed into devices? And, if so, just explain what those
10 standards are.

11 A. There are. And the standards are iterative in the
12 technology that has matured over the years. We've all heard of
13 5G, 4G, 3G the analog technology had a set of standards. Then
14 the second generation had a set of standards.

15 The 3GPP is the standard setting body now for wireless
16 communications. 3GPP is actually a unification of seven
17 standard bodies that are comprised of folks from industry,
18 folks from academia and research, and they are the ones that
19 are setting the standards by which not only the phones are
20 designed but also the radio equipment network and some of the
21 core switching network. All those standards that are
22 promulgated to the industry are set by the 3GPP.

23 THE COURT: I'm back with another question.

24 So supposing that there's a recording at the cell
25 tower indicating that a call was connected from phone X. And,

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1 again, to make it simple, let's assume there are no other cell
2 towers in that area. How do you determine how close or far
3 away the cell phone was to the tower?

4 THE WITNESS: Well, that would really require
5 knowledge of what the rest of the network looked like. So, if
6 we know that cell X was a sectorized site. It had three
7 sectors to point in distinct directions in the horizontal
8 plane, and we know that the call was on, let's say, the
9 northeast sector, we would look to the northeast and see what
10 the next tier of sites was, where was its closest neighboring
11 site to the northeast.

12 And if, let's say, that neighboring site --

13 THE COURT: So would it be a function of you would
14 have to know how strong the -- where the cell tower was
15 located, how strong its signal was, what obstructions, if any,
16 there were. Anything else you would need to know?

17 THE WITNESS: You would need to know where its
18 neighboring sites were.

19 THE COURT: I'm sorry?

20 THE WITNESS: Where its neighboring sites were.

21 THE COURT: Where the neighboring sites are, okay.

22 So, if -- again, to simplify. So supposing -- let's
23 take something that's not part of this case. Let's take an
24 open field, and there's a tower there, and there's a recording
25 that indicates that a cell phone call was made to that tower.

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1 No obstructions. No other cell towers. How far away or how
2 close could the cell phone be in a tower of the sort that had
3 the same strength as the towers involved in this case?

4 THE WITNESS: So, if this is an island site, if you
5 will, in the middle of the field of no neighbors, and
6 unobstructed --

7 THE COURT: That's why this is a hypothetical.

8 THE WITNESS: Right.

9 -- an unobstructed view, that would depend on the
10 height. But let's just say it was an average tower height. In
11 that type of scenario, which is really -- it may have existed
12 years and years ago, but it doesn't really exist much any more
13 in none of the areas that I work. But if it did, I've seen
14 connections upwards of five miles in propagation.

15 THE COURT: In that extreme case, which we all agree
16 is not the situation here, but am I right that you wouldn't
17 know whether the call was made from ten feet away or five miles
18 away?

19 THE WITNESS: That's right.

20 THE COURT: Okay. Go head, counsel.

21 BY MR. BALSAMELLO:

22 Q. Mr. Petersohn, have you done any testing analysis that has
23 allowed you to see what cell site a phone was connecting to at
24 any given time?

25 A. I've done a lot of drive testing, yes.

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1 Q. Explain what drive testing is.

2 A. Drive testing is a regular practice by the cellular
3 providers where they will actually drive their network for a
4 variety of reasons. Typically, a performance type of drive is
5 what's done in an area that maybe needs some improvement --
6 maybe there's some dropped calls, maybe there's -- just as an
7 investigative tool the providers will send out a specialized
8 vehicle with a lot of specialized equipment: Many handsets
9 running phone calls, hanging them up, calling again, hanging
10 them up. Other handsets doing data transactions with the
11 network, so just kind of doing data testing. There's also
12 typically a just a receiver that's not making phone calls, just
13 monitoring channels. And using this equipment, we will drive
14 and record with a bunch of handsets at once and kind of see how
15 the network is behaving in areas of interest.

16 Q. So with respect to the cell site used to initiate a call or
17 a text -- not ones that are handed off during a call, but to
18 initiate a call -- what, if anything, have you observed about
19 the relationship between connectivity and the distance from the
20 device to the site?

21 A. Well, in my experience it's always one of the first tier of
22 neighbors of cell towers that you are within. It would be very
23 rare to always be underneath of a tower when you're initiating
24 a call. We don't have that many towers out there. But even in
25 a dense area, you're going to have some distance from the

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1 tower. So it's typically the case that you're kind of
2 surrounded by towers, maybe two, three, four towers that
3 potentially could serve you depending on your distance and
4 relationship to them.

5 THE COURT: I'm sorry, go on.

6 A. But in my experience, it's always one of those towers
7 that's surrounding you with the sector of antennas pointed
8 generally in your direction that you're going to initiate your
9 call on.

10 THE COURT: You examined, did you, the cell tower or,
11 excuse me, the evidence relating to cell tower and phone
12 location that the government's proposing to introduce in this
13 case?

14 THE WITNESS: I have.

15 THE COURT: And you made a determination, did you,
16 that the cell phone had to be within, what, a certain amount of
17 feet of the cell tower?

18 THE WITNESS: Well, based on this specific environment
19 and my examination of the sites and the surrounding areas, and,
20 most importantly, the distance between sites -- in the case of,
21 let's say, T-Mobile in this case where there is a facility
22 roughly every five, six blocks or so, it's very likely that
23 when a device connects to one of those towers, that they're
24 going to be within three blocks, half the distance.

25 THE COURT: To make that determination, you base that

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1 really on your understanding of how the cell phone connections
2 work as a physical matter, your experience with cell phone
3 locations similar to this one, and your observations of the
4 actual data?

5 THE WITNESS: Correct.

6 THE COURT: So someone who did not have those
7 qualifications would not be able to give the opinion you just
8 gave, true?

9 THE WITNESS: I don't know -- I guess we'd have to
10 examine their qualifications or their experience.

11 THE COURT: Well, if someone said, "I'm an
12 investigator for the U.S. Attorney's Office" -- at that point
13 there's a little drum roll, but after we get past that -- "and
14 I'm not an engineer, and I don't have a technical understanding
15 of exactly how these things work, although I have a more
16 general understanding based solely on what I've read, but I
17 could see what the data is," would that person be able to say
18 in a reliable way, "So it's my opinion that the phones had to
19 be within a few blocks" or would we need someone like you to be
20 able to really give an opinion like that?

21 THE WITNESS: I think someone that you've described
22 could give that opinion, and, you know, the Court can give it
23 the weight that they see fit. But it's a generally accepted
24 principle as to how these networks work and how they balance
25 traffic typically. And anyone that gives that opinion is going

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1 to also point out some of the caveats in that with traffic
2 shedding and obstructions, and so it's not always the closest
3 site, I don't think --

4 THE COURT: I understand that, but when you say it's a
5 generally accepted principle, have any experiments been done to
6 try to, if you will, fool a tower or see if it will not
7 necessarily connect with the strongest signal but maybe with
8 just the physically closest? I can, you know, speculate, but
9 are there -- has any of this been the subject of testing?

10 THE WITNESS: Well, I don't know of any experiments to
11 push -- let's say, try to push a device on to a more distant
12 tower, but I can just speak from my own experience with the
13 hundreds of drive tests I've done over the years, that I've
14 never seen a call initiate on a tower outside of that first
15 tier of sites. It's not always the closest site, but I've
16 never seen it outside of kind of that first tier of neighbors
17 of sites.

18 THE COURT: What about is it possible for the tower's
19 recording mechanism to get it wrong?

20 THE WITNESS: Not that I've ever seen, and I've
21 studied hundreds of call detail records, and I've never seen
22 anything in a call detail record that looked so strange that it
23 popped out at me and just looked impossible. I've never seen
24 that. It's important to note that these are created and stored
25 in an automated fashion so the human error aspect isn't present

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1 in this case.

2 THE COURT: You're saying that because really there's
3 no human being involved in this process other than pushing a
4 phone to start the call, the chance of there being the kind of
5 error that you might find where there is human intervention is
6 much more remote?

7 THE WITNESS: Yes, it's basically eliminated in this
8 case because of the way that these records are created and
9 stored.

10 THE COURT: Okay. Counsel.

11 MR. BALSAMELLO: Thank you, your Honor.

12 BY MR. BALSAMELLO:

13 Q. You referenced a few times you've never seen a cell phone
14 connect to something outside of a first tier. I think you said
15 that's the nearest two or three or four depending on the
16 density around the phone. Is that right?

17 A. That's right.

18 Q. So even understanding that a phone may connect to
19 something, not the closest, but something else in that first
20 tier, do you have an opinion about whether a -- what is your
21 view, if you have any, as to whether a reliable opinion can be
22 formed about the location of the device even if the phone is
23 not connecting necessarily to the closest?

24 A. We can still form a general -- an opinion as to a general
25 location of that device even if it's not connected to the

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1 closest because the second closest, and particularly if it's a
2 sectorized site, the second closest sector is still going to
3 point in the same general direction as the closest sector just
4 by the nature of how these facilities are arranged.

5 So, again, we can't pick and choose which building or
6 the exact address that the call was initiated or received at,
7 but we can still form that general opinion of a location.

8 Q. Picking up on a topic the Court just asked about regarding
9 CDRs or how the records are kept, have you ever seen call
10 detail records where there's information omitted; for example,
11 entries that didn't capture location data?

12 A. I have, yes.

13 Q. Do you have any understanding as to why that sometimes
14 occurs?

15 A. No, other than some of the databases may be incomplete that
16 feed the CDR. So, a good example I have seen is where some of
17 the call detail records will give specific information about,
18 let's say, the beam width of the antennas in the sector that's
19 served. So that's kind of the 3D beam width is where the
20 majority of the power that of sector is, and that is specified
21 sometimes. Sometimes it's omitted. I suspect it's just from
22 the database that the CDR is pulling that, that that entry is
23 blank or incomplete. So I have seen instances like that, yes.

24 Q. Does any incompleteness or do any omissions from CDRs cause
25 you to have any doubt as to the accuracy of the data that

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1 appears in the CDR?

2 A. They don't, no.

3 Q. Why not?

4 A. Well, just because there may be certain data that's not
5 captured for whatever reason, in my opinion has no bearing on
6 the data that is captured, again, because the data that is
7 captured that I've reviewed over the last decade or more now
8 looking at these CDRs has never appeared to me to be obviously
9 questionable or false or unexplainable.

10 Q. With respect to how the networks are designed again and how
11 the sites are laid out, how, if at all, does the network layout
12 or design in an urban area like the West Farms neighborhood in
13 the Bronx differ from the island in the field, the sole cell
14 site sitting in a remote location? How do they differ?

15 A. Well, in the West Farm area or any urban, dense urban area,
16 we're going to have significant cell density to support the
17 user and the use cases that are so prevalent now as far as
18 folks streaming video, sending text, doing work-type of email
19 attaching on their devices now on-the-go.

20 So, in order to support that, the carriers need high
21 cell density, and in the case of T-Mobile, in this area a site
22 every five, six blocks or so is what we saw and that was in the
23 time frame 2016 into 2017. So that density has probably
24 increased pretty significantly by now.

25 Whereas the island scenario where we have a site out

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1 in the middle of a field, it's not that farfetched a scenario,
2 but we do have some sites, let's say, up along a remote highway
3 where we're only concerned about covering that highway, and the
4 next site to the east, let's say, on an east-west highway may
5 be three, four miles away, and the next site the other way may
6 be another three, four miles away. So that site could be
7 covering, let's say, a three, four mile radius around it. But
8 there's always going to be that next connecting site. Very
9 rare to have true island sites now.

10 So because there's always that next connecting site,
11 there's always going to be that upper limit, that kind of rough
12 upper limit as to just how far we would expect a user to be
13 before they hand off or initiate on the next site in any
14 direction.

15 Q. Is there anything about how sites are calibrated or
16 physically positioned that contributes to what you just
17 described as sort of the distance at which they would then hand
18 off?

19 A. It's generally the practice that the sites are set up with
20 the same power settings. Now, there are some notable
21 exceptions when we try to shift traffic, let's say, in the case
22 of a busy ballpark where we want to use some of the neighboring
23 sites to get into a sporting venue to help out just by way of
24 example. But, generally speaking, we have a homogenous area
25 where we want all those sites to be of the same strength, if

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1 you will. That way there's a load balancing. Each site is
2 doing its fair share of heavy lifting, and the network benefits
3 as a whole because of that because now we have the most
4 efficiency we can out of the network. We don't have site A
5 doing 90 percent of the traffic in the geographical area that's
6 covered by site A and B. That just wouldn't be a good use of
7 resources. So, because of that, we know that that handoff
8 area, the gray area where we're going from site A to site B is
9 typically equidistant.

10 THE COURT: I take it from your observation, at least
11 as far as you know, there are no farms left in the West Farms
12 area of the Bronx?

13 THE WITNESS: None that I saw. The only kind of
14 non-homogenous area, the park to the north with the zoo, and
15 there is a lack of sites in that area, as you'd expect. So, in
16 that area there are some -- and there's also the creek there,
17 the creek bed there, so a bit of a depression in the terrain.
18 So that was notable.

19 But other than that, it's a pretty homogenous area:
20 Highways bisecting it in different directions and some moderate
21 structures -- moderately tall structures, up to ten-story
22 structures or so.

23 Q. Is there anything about how cell sites are angled when
24 they're put up that affects their coverage areas?

25 A. Yeah, we do -- in an area like this where we have

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1 predominantly rooftop sites, as engineers -- and I've done this
2 personally dozens, if not a hundred times -- gone out onto
3 rooftops, physically picked the locations where I want to put
4 the antenna array. Generally, it's pushed to the edge of the
5 rooftop inside the parapet and then elevated on what we call a
6 sled mount, it looks like a football sled, and then it's
7 ballasted to the roof so as not to penetrate the roof. That
8 way we can ensure with the best line of site to the area that
9 we are looking to cover. Sometimes landlords don't like that.
10 They may want you back on the penthouse. They may want you to
11 do some other type of mount. But it's always done with the
12 design goals in mind, and we can point these directional
13 antennas into certain areas that we -- let's say we want to
14 cover along a busy highway, we'll put a sector that points
15 right along that busy highway. Then on the other side of the
16 building, we'll put another sector that points along that busy
17 highway. And in that fashion we really design the specifics of
18 where the energy from the site is focused.

19 Q. Are they often tilted down to cover a specific area?

20 A. They are. And in a case like this, the more dense the
21 area, generally speaking, the greater the tilt. And that's
22 done with mechanical tilt as well as electrical tilt.

23 Electrical tilt is just a shift in the pattern where the
24 antenna pattern is actually focused more off of the horizon.
25 And then mechanical tilt will physically look down till the

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1 brackets tilt the antennas down off the sled. And in an area
2 like this, I'd expect a combination of those two to be
3 somewhere in the range of ten degrees, eight to ten degrees on
4 these sites, maybe even more.

5 Q. Shifting slightly to a more specific topic to this case,
6 you said earlier you looked at Sprint and T-Mobile records for
7 late 2016 and 2017?

8 A. That's right.

9 Q. And did you look specifically -- first of all, the
10 testimony you've given so far about sort of homogenous terrain
11 and location placement, was that applicable to both T-Mobile
12 and Sprint?

13 A. Yes.

14 Q. Did you look at whether the cell sites listed on the
15 providers' tower lists were in fact located in the places where
16 the records said they were?

17 A. I did. I verified that through the use of Google Earth and
18 Google Earth Pro, I verified that roughly at the time of the
19 CDR record that there was indeed a cellular facility at the
20 location that the CDR says there was.

21 Q. And you didn't do that for the whole Bronx and Manhattan,
22 right?

23 A. No, just for the sets of locations that I was given.

24 Q. And those locations, was there a map of West Farms that the
25 government provided?

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1 A. Yes.

2 Q. And then separately, were there CDR entries for specific
3 cell site hits that you looked at those locations?

4 A. Yes, there were.

5 Q. And for each of them, did you find a cell site at the place
6 anticipated?

7 A. Yes, I did.

8 Q. How, if at all, did --

9 THE COURT: I'm sorry, counsel. I'm going to
10 interrupt you, although I'm sure you have other relevant
11 questions to put, but I think at this point, it would be useful
12 to hear cross-examination, and then we'll come back to you to
13 cover anything you haven't yet covered or anything else you
14 want to say.

15 MR. BALSAMELLO: Yes, your Honor.

16 CROSS-EXAMINATION

17 MS. HARRIS: Your Honor, we actually have some hard
18 copies of the exhibits that we sent over to chambers earlier.

19 THE COURT: Okay. I have what you sent to chambers.

20 MS. HARRIS: There is one extra that wasn't in the
21 email and then there's one piece that may be used on
22 cross-examination.

23 THE COURT: Okay.

24 BY MS. HARRIS:

25 Q. Good afternoon.

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Petersohn - Cross

1 A. Good afternoon.

2 Q. I'd like to start with just a few basics. I think the
3 Court and the prosecutor covered much of it, but I just want to
4 establish a few things upfront.

5 Now, cell site technology that you've been discussing
6 was not actually designed to locate a cell phone user, correct?

7 A. Correct.

8 Q. That wasn't its purpose?

9 A. That's correct.

10 Q. And, in fact, you're not trained specifically to conduct
11 historical cell site location analysis. Is that right?

12 A. I have had some training from AT&T on it.

13 Q. But CDRs that you've been discussing -- and I think you
14 said this on direct -- they're essentially billing records,
15 correct?

16 A. That's correct. They are used occasionally for some
17 performance-type of analysis but mainly for billing.

18 Q. And so the information that's pulled into it automatically
19 has information which the cell phone companies believe is
20 necessary for billing purposes, correct?

21 A. Correct.

22 Q. And you talked briefly about missing information in the
23 CDRs. The missing information if you're looking at a
24 particular entry that lacks, for example, the base station
25 identifier, that makes it difficult to map or try to place on a

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Petersohn - Cross

1 map the cell phone user, correct?

2 A. A base station identifier wouldn't really have a bearing on
3 the location. It would be -- if the latitude or longitude were
4 missing, that would be a problem.

5 Q. And certainly if both were missing, that would be a
6 problem, correct?

7 A. Certainly.

8 Q. So if you were trying to get --

9 THE COURT: I'm sorry. I'm a little unclear about
10 what kind of missing information we're talking about.

11 THE WITNESS: So I have seen -- as I testified to
12 earlier, I have seen some specific information of a call detail
13 record missing; never a latitude or longitude or a base station
14 identifier, but I have seen some of the data that may be more
15 in the minutiae. The example I gave before was an antenna beam
16 width, I have seen those missing in the past where, not the
17 direction of the antenna, but the beam width. So whether it
18 was, let's say, a 90-degree beam or 65-degree beam, that just
19 tells us as engineers where the majority of the energy is
20 directed or how fat, I should say, the way you can twist a
21 Maglite and change that beam width, that's kind of an analogous
22 piece of information there just how wide that beam width is,
23 not the direction of it.

24 THE COURT: Let me just ask counsel the same question.
25 What missing information are you referring to?

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1 MS. HARRIS: Your Honor, I am referring to latitude
2 and longitude missing information, and attached as an exhibit,
3 actually withdrawn, but one of the proposed exhibits, your
4 Honor, shows an example from the spreadsheets in this case that
5 are in fact --

6 THE COURT: All right. I'll hold off until you get to
7 that.

8 MS. HARRIS: Correct, and I think it will be more
9 relevant to the second witness that the government intends to
10 call.

11 THE COURT: All right.

12 BY MS. HARRIS:

13 Q. But, in any event, this information we're talking about is
14 very different than, for example, GPS data, correct?

15 A. Correct.

16 Q. Gaps data, in fact, is designed to locate a cell phone
17 user, correct?

18 A. Yes, or a user of any GPS device. It doesn't have to be a
19 cell phone, but, yes, GPS is used for positioning.

20 Q. Fair. So you talked a little bit about how cellular
21 networks are designed to optimize connectivity for phones,
22 correct?

23 A. Correct.

24 Q. And as we've discussed, they're designed to ensure that the
25 cell phone user connects to the strongest or best quality

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Petersohn - Cross

1 signal, correct?

2 A. That's right.

3 Q. And a cell phone actually constantly ranks towers from best
4 to worst, correct?

5 A. Within -- it doesn't rank the entire network of towers, but
6 the towers that it's monitoring would be kind of that first
7 group of towers around it. Yes, it does rank them.

8 Q. And it ranks them based on the strength of signal, correct?

9 A. Strength and quality. So not just for strength but also
10 signal to noise ratio.

11 Q. There are often several towers that would be on this list
12 that the cell phone is ranking, correct?

13 A. Correct.

14 Q. Could be as many as six towers, correct?

15 A. Could be, yeah. Neighbor lists. It depends on kind of
16 what mode the phone is in as to what it's monitoring, but,
17 yeah, neighbor lists can certainly have that many towers on it.

18 Q. So, at any given time, there are in fact multiple towers
19 that a cell phone could connect to, correct?

20 A. Well, when it's on a phone call, it's looking to see where
21 it should hand off next. So when we say towers to, it's
22 important that we note that it's actually monitoring sectors.
23 And typically each tower has three sectors. So the neighbor
24 list is automatically going to be populated with the other two
25 sectors of the site that you're on because sometimes you're

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Petersohn - Cross

1 kind of driving around a site, although kind of not in a circle
2 but still kind of driving past it, you'll hand off. So there
3 you have two sectors. And then let's just say that there's
4 four other sites, each having a sector pointing kind of towards
5 you where, you know, we're up to six sectors already of
6 neighbors, so that's not abnormal, no.

7 Q. But to be clear, a cell phone doesn't rank cell sites or
8 sectors based on proximity, correct?

9 A. Correct.

10 Q. And that means that the first ranked tower is not
11 necessarily the closest tower?

12 A. Not necessarily, that's correct.

13 Q. And so on; the second ranked tower is not necessarily the
14 second closest tower, correct?

15 A. Correct.

16 Q. And you've talked a lot about first tier of sites, and I
17 think it's your opinion that in the majority of cases, a cell
18 phone is going to connect with a site within the first tier of
19 sites, correct?

20 A. That's correct.

21 Q. And that first tier of sites includes multiple sites,
22 correct?

23 A. Yes. It depends on the circumstances, but it can include a
24 handful of sites.

25 Q. Even up to six sites, correct?

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Petersohn - Cross

1 A. That would be an extreme case to have six sites kind of in
2 a first tier, particularly in a more dense area. I would say
3 it's more likely to be three, four.

4 Q. Okay. I'd like to come back to the question of sites in a
5 minute.

6 You talked a little bit about density of cell sites in
7 urban areas, correct?

8 A. Yes.

9 Q. And one of the reasons it sounds like we need lots of sites
10 in a dense urban area is because load is a real issue, correct?

11 A. Correct.

12 Q. Lots of people, right?

13 A. Yes.

14 Q. Using their cell phone constantly, right?

15 A. Yes.

16 Q. And so the notion that one site might be overloaded and the
17 cell phone would connect with option B on the ranking list is
18 fairly common, correct?

19 A. It's common. More common during certain times of the day,
20 let's say, during the afternoon rush, etc.

21 Q. And, again, that option B is based on the strength and
22 quality of the signal, not on proximity, correct?

23 A. Correct.

24 Q. Now, specifically in West Farms, you say you looked at the
25 map and you estimated that the cell sites are about five to six

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Petersohn - Cross

1 blocks apart, correct?

2 A. For T-Mobile specifically.

3 Q. T-Mobile.

4 A. Yes.

5 Q. And so when we're talking about four sites being in the
6 first tier of sites, that could encompass easily a 20-block or
7 even more, a 24-block radius, correct?

8 A. No. No. When I say the first tier, I mean the tier that
9 surrounds you. So, imagine if you're a mobile device sitting
10 in the middle of a circle of people in chairs, and the people
11 in chairs are towers, you know they're sitting in a circle
12 around you, you're going to be -- and those chairs are five
13 blocks apart from one another, six blocks apart from one
14 another, you're going to be about three blocks away from chair
15 one, three blocks from chair two. You're in the middle of that
16 circle. Those are the sites that are going to serve you, and
17 particularly the sector of sites that point into the circle.

18 Q. Let me follow up on that a little bit because that assumes
19 sort of a perfectly grid sort of layout of cell sites.

20 A. No.

21 Q. Because that's what you just described.

22 A. Doesn't have to be a perfect grid. Even if you imagine
23 sites that are kind of even haphazardly placed but in that
24 general five to six block distance from one another, no matter
25 where you place yourself in that setup of sites that's not on a

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Petersohn - Cross

1 perfect grid, you're going to be surrounded by, in the case
2 here that we're talking about, three or four sites that you can
3 say, yeah, those are the three or four that are closest, and
4 likely to be serving someone in this center of this circle.

5 Q. Again, at the beginning of the Court's examination, there
6 was a big discussion about obstacles, correct?

7 A. Correct.

8 Q. So, again, the circle that you just described assumes all
9 of those cell sites have no obstacles and the signal strength
10 is clear, correct?

11 A. No. So my testimony was that the signal from those sites
12 are all going to be affected somewhat equally by the obstacles.
13 Now you may have more obstacles from site number one over here
14 than there are from site number two. And so site number two
15 that may be a little further away from you may actually serve
16 you, but it's still within that first tier of sites that you're
17 surrounded by, so there's no assumption of perfect.

18 Q. If we can back up a second --

19 A. Sure.

20 Q. -- because when we talked about the ranking of sites,
21 again, the ranking of sites are not based on location, correct?

22 A. Correct.

23 Q. They're based on signal strength, correct?

24 A. That's right.

25 Q. So when we're talking about what is in the surrounding --

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1 which cell sites your phone is going to connect with, we're
2 talking about cell sites with the strongest signal, correct?

3 A. Correct.

4 Q. And on any given day, we don't know when you're standing in
5 the middle of West Farms which those might be, correct?

6 A. That's correct.

7 Q. Because of all the different factors that could affect
8 signal strength, correct?

9 A. That's right.

10 Q. Could be weather, correct?

11 A. Weather doesn't play as much of a role as folks think.
12 It's more environmental, manmade clutter, leaves. Certainly
13 time of year can change things because foliage will have an
14 attenuating effect. But weather -- unless we're talking about
15 very high frequencies, weather isn't really much of a factor.

16 THE COURT: I'm sorry, counsel, would you and
17 government counsel come to the sidebar, please.

18 (At the bar sidebar)

19 THE COURT: I'm not quite understanding how this line
20 of cross-examination is directed to Daubert and the reliability
21 of the science involved. It is, of course, fair game at trial
22 if a witness like this were testifying to say, now, you don't
23 know for sure whether this guy was standing at corner X or
24 corner Y, and there would be a debate as to how far away it
25 might be, but that doesn't go to the admissibility of this

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1 evidence because it doesn't -- it's not related -- both sides
2 assume the same basic physical principles are operating.
3 They're just not in agreement as to how in this particular case
4 those physical -- what you could reasonably infer from the
5 notations about location.

6 So let me make sure though I understand the
7 government's position, which is, as I understand it, that
8 you're not saying that the evidence you're going to introduce
9 through cell tower evidence will pinpoint in the way that a GPS
10 could the specific location, but only that it had to be or a
11 reasonable juror could conclude that it was very likely to be
12 in area X. Do I have that right?

13 MR. BALSAMELLO: That's correct.

14 THE COURT: I'm sorry?

15 MR. BALSAMELLO: Yes, that's correct.

16 THE COURT: And what is the area that you say a
17 reasonable juror could infer? An area of six feet from the
18 tower that records it, ten feet, or are you putting any number
19 on this?

20 MR. BALSAMELLO: No, your Honor. And it will in fact
21 be dependent a bit on each map that we're looking at. Our
22 witness would be Agent Donaldson from U.S. Attorney's Office,
23 and he will have --

24 THE COURT: I must say, forgive me, I have the
25 greatest, greatest respect for Mr. Donaldson, but I must say

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1 this witness who is on the stand now seems to me much more in a
2 position to talk about the science of this than Mr. Donaldson
3 is. And I'm wondering whether that doesn't mean that he is the
4 witness, if any, that you will be able to call, but we can
5 reach that question another day.

6 So let me go back to defense counsel. So the
7 government is in effect agreeing with you that this technique
8 does not allow one to pinpoint a specific location but only to
9 get a general idea of the location of the cell phone. And you
10 can cross-examine him, the witness, whoever the witness may be,
11 as to how broad or narrow that scope may be.

12 But I don't think that goes to the reliability of the
13 science, is my point. The reliability of science would be in
14 play if you were contending either that the technique being
15 used when it says three feet or within three to six feet
16 typically gets it wrong or, you know, just plain gets it wrong
17 because of methodological flaws, or he might be saying that
18 even though the science is fine, the interpretation that a
19 given witness is giving based on his experience that it needs
20 only within six feet as opposed to five miles, is just not a
21 fair inference, and that's all fine, but that's all for
22 cross-examination. What I am trying to --

23 MS. HARRIS: I understand.

24 THE COURT: Okay, go ahead.

25 MS. HARRIS: Your Honor, two things.

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1 THE COURT: Please.

2 MS. HARRIS: One is, I can move on to questions that
3 do address methodological issues and concerns that we have, so
4 we can do that momentarily, and that's where I'm headed. But I
5 don't think we're in as much agreement as your Honor suggests
6 because the maps, which you'll see more clearly with the
7 Mr. Donaldson, Agent Donaldson, when he testifies --

8 THE COURT: One of the reasons I called this sidebar
9 is I'm not sure what it is that Mr. Donaldson is going to be
10 saying that's different from what this witness is saying. And
11 this witness, to be frank, again, is much better credentialed
12 to give these kind of opinions than Mr. Donaldson is. So let's
13 assume for the sake --

14 MS. HARRIS: Sure, whoever it is, your Honor.

15 THE COURT: Let's assume it's only this witness.

16 MS. HARRIS: I think the relevance of the distance and
17 what it means to say a cell phone connects within the first
18 tier, what does that mean in terms of distance is relevant to
19 our second objection, which is Rule 403, your Honor, and it
20 will go to limiting -- to the extent the evidence comes in,
21 objections to limiting exactly what they're going to be able to
22 say and present through whichever witness about that evidence.

23 So, they are trying to suggest that the cell site
24 evidence will place our client and other co-conspirators on a
25 specific block, your Honor.

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1 THE COURT: As I understand it, they are trying -- I
2 think they just disclaimed saying that this evidence will show
3 that he's on a specific block. I think what they're saying is
4 we have other evidence that places him on a specific block, but
5 this evidence corroborates that inference because it shows he's
6 in the general area. And you may cross-examine and say, well,
7 doesn't it really show he's in a much broader area than this.

8 MS. HARRIS: Understood.

9 THE COURT: But I don't think that it -- again, that
10 doesn't go to the Daubert issues.

11 MS. HARRIS: Understood.

12 THE COURT: So maybe we should turn to --

13 MS. HARRIS: That's fine. We'll move on.

14 But, your Honor, with respect to our Rule 403
15 objection, I do want to make clear that this is the area where
16 my -- right on around the corner from any of the locations that
17 are relevant in this case, my client's mother lives where he
18 lived for many years. There are lots of innocent reasons --

19 THE COURT: That's great cross-examination, and I look
20 forward to that cross-examination, and independent evidence,
21 you know, he was visiting his mother. If he was in the area at
22 all, he was visiting his mother, but that's not what we're
23 concerned with this afternoon.

24 MS. HARRIS: It dovetails to the Rule 403 whether the
25 probative value is de minimus --

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1 THE COURT: I'm much more concerned this afternoon
2 with the methodology.

3 MS. HARRIS: Understood. We'll move on. Thank you.

4 (In open court)

5 BY MS. HARRIS:

6 Q. I think before we broke we were talking about your opinion
7 that in the vast majority of cases a cell phone will connect
8 with a cell site in the first tier of cell sites. Is that
9 correct?

10 A. Correct.

11 Q. And I want to talk about the basis for that opinion, all
12 right. As I understand it, the basis for that opinion is your
13 personal experience conducting drive tests, correct?

14 A. That's part of the basis, yes. The other part being just
15 my understanding of how these networks operate and how they're
16 configured and what the intention of the design, the standard
17 design for these networks is.

18 Q. Right. So I'll just take the first part of that. For a
19 moment, it's -- the first part of what you said is that it's
20 based on the way the system is supposed to work, correct?

21 A. Correct.

22 Q. And what we're trying to figure out here is how often it
23 actually works that way, correct?

24 A. Correct.

25 Q. And for that portion of the analysis, your opinion is based

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1 on the actual drive tests that you've done in the field to see
2 how often cell phones actually connect to cell sites in the
3 first tier of adjacent cell sites, correct?

4 A. Correct.

5 Q. So you've conducted hundreds of drive tests since the late
6 1990s, correct?

7 A. Yes.

8 Q. So over a 25-year period, roughly?

9 A. Yes.

10 Q. And you don't maintain a log or a record of these drive
11 tests, correct?

12 A. I don't have specifics of each and every one, and to --
13 just to give the Court a better idea, for awhile when I was an
14 intern at a co-op at what is now Verizon Wireless, that's all I
15 did was drive testing day in and day out because, of course,
16 what else do you have a co-op do? So for a semester or so I
17 was driving almost every day and analyzing every other day the
18 data that we would collect. So just in that kind of time
19 period there were probably hundreds of drives done.

20 Q. Understood. And I think when you talked about your
21 background, the most of the work you do is in the service of a
22 telecommunication company, correct?

23 A. Yes.

24 Q. And many of these drive tests then, perhaps all of them,
25 were related to some business need of the telecommunication

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1 company, correct?

2 A. The majority, yes. Yeah.

3 Q. Or a litigation need sometimes, right?

4 A. Yes, correct.

5 Q. And the goal of most of these tests, these drive tests, is
6 to determine gaps in service area, correct?

7 A. Sometimes. Sometimes it's just baseline driving where we
8 just drive every road of a given area, not necessarily looking
9 for, you know, anything; just making sure that things are
10 working the way they're supposed to work, not because there
11 have been reports of issues or anything like that, just kind of
12 baselining an area.

13 Q. Doing a check-in basically with the network?

14 A. Yeah.

15 Q. Making sure there aren't dropped calls?

16 A. Correct.

17 Q. Or failures to connect?

18 A. Correct.

19 Q. And, in fact, I think you told the government about a
20 recent one that you conducted, correct?

21 A. Yes.

22 Q. And you said that -- you weren't really focused on what
23 tower the cell phones were connecting to because that wasn't
24 the purpose of the drive test, right?

25 A. Right. That was for a case that was in zoning in Newlin

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Petersohn - Cross

1 Township, Pennsylvania where the carrier was asserting a gap in
2 coverage, and there were some residents who felt the opposite;
3 that there was no gap in coverage; that there was no need for a
4 new site. So there was a drive test done in order to examine
5 that by the -- and that drive testing in that case was done by
6 the residents. They did some drive testing. In that case, the
7 carrier didn't.

8 Q. Understood. But fair to say that the vast majority of
9 drive tests are just focused on the question of whether a cell
10 phone connects to a cell site, correct?

11 A. In a case -- in a case like that, if it's a -- yeah, if
12 it's a case where we're trying to prove need or where some
13 opposition is trying to prove the lack of need, then yes,
14 they're not that concerned as to what tower it's connecting to,
15 just monitoring, let's say, dropped call statistics. But the
16 majority of drives that I've looked at over the years were more
17 of the ilk that we were discussing earlier where we are looking
18 at where we're connecting to.

19 Q. Right. You're looking at whether you're connecting and the
20 strength of a signal, correct?

21 A. No, the majority would be more of what site are we
22 connecting, did we drop a call, what site did we drop off of,
23 where is the handoff taking place. That's the majority of the
24 drive testing that's done directly on behalf of the carriers
25 where they're monitoring their systems.

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Petersohn - Cross

1 Q. Let's back up a little bit. When they're monitoring their
2 systems, you're concerned about dropped calls, correct?

3 A. We're concerned about all performance aspects, and that
4 would include, you know, what site is covering where; when do
5 they hand off to the next site; is it happening at the spot
6 that we thought it would or close to the spot that we thought
7 it would; are you dragging a site further than you should into
8 the next site's kind of coverage area. So it's very much
9 focused on what site is covering where.

10 Q. Now, in any event, because you don't have any records for
11 your actual drive tests, you can't actually say exactly how
12 many you've done, correct?

13 A. I couldn't tell you exactly how many, no.

14 Q. And you don't have any data showing the results of those
15 drive tests, correct?

16 A. No, not with me.

17 Q. And you can't probably sit here from memory and tell us all
18 the different locations that you've actually done drive tests
19 for, correct?

20 A. No, they're mostly in the Philadelphia market and
21 surrounding areas.

22 Q. Most of your work is in Pennsylvania, fair?

23 A. Pennsylvania, New Jersey, kind of surrounding Philadelphia.

24 Q. And you've never done a drive test in the West Farms
25 neighborhood of the Bronx?

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Petersohn - Cross

1 A. No.

2 Q. Have you ever done one in the Bronx at all?

3 A. No.

4 Q. How about New York City?

5 A. Not -- no, I don't think so.

6 Q. And as we discussed earlier, there are unusual load issues
7 in high-density areas like New York City, correct?

8 A. Yeah, they wouldn't be any different or more unusual than,
9 let's say, downtown Philadelphia.

10 Q. But you don't have records of the number of drive tests
11 that you've done in downtown Philadelphia, correct?

12 A. Correct.

13 Q. Can you tell us how many drive tests you've actually done
14 in downtown Philadelphia?

15 A. I could tell you that it was -- it's probably hundreds if
16 we, you know, looked at over the years, but I couldn't give you
17 an exact number, no.

18 Q. So you don't have any recorded data, like records or
19 documents, that demonstrate the number of times that a cell
20 phone user connected to the closest tower, correct?

21 A. I don't.

22 Q. And you don't have records or data that show the number of
23 times that a cell phone user connected to the second closest
24 tower, correct?

25 A. I do not.

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Petersohn - Cross

1 Q. Or the third or the fourth?

2 A. No.

3 Q. So your testimony that is about your opinion about what
4 happens in the vast majority of times is based on your memory
5 from your personal experience, correct?

6 A. Correct.

7 THE COURT: Maybe I'm missing something. Is it based
8 just on that or is it based on how the signals rapidly diminish
9 over distance?

10 THE WITNESS: Well, it is based on -- but I think
11 counsel's question was more towards what I'm basing what I've
12 seen in the field on. I know that -- I made the distinction
13 earlier, I think, that my opinion is based on my personal
14 experience as well as how I know these facilities and these
15 networks are designed and the underlying fundamentals, the
16 physics of it.

17 THE COURT: Maybe I misunderstood earlier. I thought
18 you said that a signal of the sort emitted by a cell phone or
19 tower diminishes in strength very rapidly over a distance.

20 THE WITNESS: It does.

21 THE COURT: I think you said, I forget the formula,
22 but it's a square --

23 THE WITNESS: Right, with the square of the distance,
24 the signal strength is inversely proportional to the square of
25 that distance.

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Petersohn - Cross

1 THE COURT: So, of course, if the signal were strong
2 enough, even if diminished rapidly, it still might connect
3 because it began at a very strong level?

4 THE WITNESS: Yes.

5 THE COURT: But assuming it were, for lack of a better
6 word, the same strength for all the towers, then the physics of
7 that would be that it would be much more likely to connect to
8 nearby towers than distant towers. Isn't that right?

9 THE WITNESS: Absolutely correct, yes.

10 THE COURT: All right.

11 BY MS. HARRIS:

12 Q. Just to follow up on what the Court just asked you. The
13 physics would dictate how that worked if we're in the open
14 field situation, correct?

15 A. Certainly in an open field situation, but it also applies
16 in an area with manmade and environmental clutter because that
17 clutter will affect the signal from all the towers, maybe not
18 exactly evenly because of how the line of sites will change as
19 you move through an environment, but it will certainly have an
20 overall effect that would be -- without being exactly equal
21 would be substantial for all facilities in an area.

22 Q. But in terms of the effect of the clutter on -- withdrawn.

23 Going back to the drive test results, which are your
24 empirical experience about how often in fact cell phones
25 connect to cell sites in the first tier of sites, because you

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Petersohn - Cross

1 have no actual data or recorded data about this, it means this
2 Court has no way to evaluate your methodology. Is that fair?

3 A. Well, the methodology is industry standard methodology of
4 using data collection software and data collection equipment,
5 so it's not necessarily my methodology, but the Court would
6 have to rely on my memory of, you know, past experience.

7 Q. But at least one -- courts in the past have had the
8 opportunity to evaluate your methodology. Isn't that right?

9 A. I didn't understand the question.

10 Q. You've testified, as you told the government, on several
11 occasions prior to this one, correct?

12 A. Correct.

13 Q. You've been certified as an expert in numerous cases,
14 correct?

15 A. Correct.

16 Q. Most of them civil cases?

17 A. Yes.

18 Q. And you testified -- in fact, you gave a list of the cases
19 in which you had previously testified that you could remember
20 to the government in advance of this hearing, correct?

21 A. Correct.

22 Q. And one of those cases was a bench trial in Pennsylvania in
23 2009, correct?

24 A. Correct, if it was Seiberlingville, Weisenberg Township.

25 Q. Weisenberg?

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Petersohn - Cross

1 A. Yes, correct.

2 Q. And you were retained as an expert on behalf of AT&T
3 Mobility. Is that right?

4 A. Correct, yes.

5 Q. And in that case, AT&T was claiming there was a gap in
6 coverage which allowed or required them to build a new tower in
7 the middle of a farm field, correct?

8 A. Correct.

9 Q. And the town was opposing in that case, correct?

10 A. That's right.

11 Q. And you conducted drive test analysis in connection with
12 that litigation, correct?

13 A. I do believe so. It's been awhile, but I do believe there
14 was some drive tests that I commissioned. I can't remember.

15 Q. And you testified --

16 A. I do remember testifying about it. I can't remember if I
17 actually did the drives or if I just commissioned and then
18 reviewed, but ...

19 Q. In any event, you testified about those drive test results
20 in court, correct?

21 A. Correct.

22 Q. And the township, the opposing party, hired an independent
23 company to do its own drive tests, correct?

24 A. Correct.

25 Q. And ultimately the court rejected the drive test analysis

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Petersohn - Cross

1 that you had either performed or oversaw, correct?

2 A. I don't recall.

3 Q. I would like to approach, your Honor. I've given copies to
4 the government.

5 THE COURT: I'm going to let you do this, but, again,
6 it sounds awfully much like what I would expect to hear on
7 cross-examination at trial as opposed to something going to
8 Daubert, but go ahead.

9 This is an opinion by Henry Perkin, P-E-R-K-I-N,
10 United States Magistrate Judge for the Eastern District of
11 Pennsylvania. And having been born and grown up in
12 Philadelphia, I am, of course, totally predisposed in favor of
13 any judge from the Eastern District of Pennsylvania.

14 Go ahead.

15 Q. Turning your attention to page 20, the middle of the first
16 paragraph. Let me know when you've had a chance to read it.

17 THE COURT: Why don't you read into the record what
18 you want.

19 Q. Sure. So does this refresh your recollection that the
20 court rejected your drive test results because they did not
21 include adverse call data?

22 A. I don't see the word rejected. I just see that they point
23 out that my drive test did not contain any data concerning
24 adverse call results.

25 Q. In the prior sentence, it reads: "In accordance with the

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Petersohn - Cross

1 analysis conducted in prior cases, this Court must rely on the
2 statistics provided by MobileNet, that was the company hired by
3 the opposing party, to determine whether a significant gap
4 exists. MobileNet specifically documented adverse call results
5 both in its drive test and in its report. Mr. Petersohn's
6 drive test, however, did not contain any data containing
7 adverse call results."

8 THE COURT: Wait. Wait. Before -- and I haven't read
9 this, but just so that I can follow what you're saying, this is
10 directed first to counsel. What kind of gap are we talking
11 about here?

12 MS. HARRIS: This is the kind of -- the gap in cell
13 phone coverage, which is of the subject --

14 THE COURT: How far a reach?

15 MS. HARRIS: A gap that would necessitate the cell
16 phone company and give it a right under statute, I believe, to
17 build a cell phone tower at a specific location. There's a
18 common civil dispute between townships and small towns perhaps
19 that don't want large cell phone towers in their back yard.

20 THE COURT: So, AT&T wanted to put up a big tower?

21 MS. HARRIS: Correct.

22 THE COURT: The town said no, and they're fighting it
23 out. And is it AT&T that says without this there will be a
24 significant gap?

25 MS. HARRIS: So AT&T is litigating to say we -- our

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Petersohn - Cross

1 data shows that there's a gap in service --

2 THE COURT: Gap meaning that you can't get cell--

3 MS. HARRIS: In coverage area, correct, and that
4 necessitates the building of a cell phone tower.

5 THE COURT: All right. And what is meant by adverse
6 calls, ones that don't connect?

7 MS. HARRIS: I was going to ask the witness, your
8 Honor. That means dropped calls, correct?

9 THE COURT: Well, you offered the opinion, and --

10 MS. HARRIS: Sure. I understand that to be dropped
11 calls, calls that don't connect, you know.

12 THE COURT: Okay. Fair enough.

13 The opinion says in the paragraph you've just drawn my
14 attention to: "As indicated above, courts in this circuit have
15 routinely analyzed the percentage of adverse call results in
16 determining whether a significant gap exists."

17 I take that to mean from what you just told me and
18 tried to put it into simple English, that the number of dropped
19 calls or other similar incompleted calls is a good measure of
20 whether the coverage is insufficient. Yes?

21 MS. HARRIS: That's my understanding, your Honor.

22 THE COURT: So it goes on to say: "In accordance with
23 the analysis conducted in prior cases, this Court must rely on
24 the statistics provided by MobileNet to determine whether a
25 significant gap exists."

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Petersohn - Cross

1 So, the court seems to be saying there, since the
2 percentage of adverse call results is a measure of whether a
3 significant gap exist, we need good statistics about adverse
4 calls if we're going to determine whether a significant gap
5 exists. And then it goes on to say: "MobileNet specifically
6 documented average call results both in its drive tests and in
7 its report. Mr. Petersohn's drive tests, however, did not
8 contain any data concerning the adverse call results. Given
9 the clear precedent of the Circuit, this Court is unclear why
10 AT&T Mobility failed to focus more exclusively on adverse call
11 results."

12 So, just reading that paragraph and not having read
13 the opinion, what the court seems to be saying is why did you
14 waste time on the drive tests when that doesn't tell us what I
15 want to know -- I, the court, want to know; namely, how many
16 dropped calls or adverse calls there were. Isn't that what the
17 court is saying there?

18 MS. HARRIS: Your Honor, I think what the court is
19 saying is that drive tests should document and report adverse
20 call results, and I think that's how the witness previously
21 described many of the drive tests.

22 THE COURT: No, I don't -- well, we will ask the
23 witness. The specific sentence says -- I'm not sure any of
24 this is relevant to the issue before the Court now. But
25 anyway, the specific sentence is: "Mr. Petersohn's drive

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Petersohn - Cross

1 tests, however, did not contain any data concerning adverse
2 call results."

3 First question: Is that correct?

4 THE WITNESS: To the best of my memory, yes.

5 THE COURT: Second, is a drive test supposed to
6 contain data concerning adverse calls?

7 THE WITNESS: In this case we had MobileNet's drive
8 test, which -- and, you know, specifically with this case here,
9 what we did was we used MobileNet's drive test to prove our
10 point. The court ultimately didn't agree with how we did that,
11 and we also had drive tests done from -- there's a footnote 40
12 that there was drive tests conducted by Paul Dugan which did
13 contain data concerning adverse call results.

14 THE COURT: Well, but I thought what you were
15 testifying to earlier was that in your experience the drive
16 test showed that the connected calls would go to the tier one
17 towers as opposed to the tier two in most cases.

18 THE WITNESS: Yeah, for maybe what I would call
19 baselining test or troubleshooting test where we're kind of
20 driving a network and closely monitoring this. In a case like
21 this, we're not concerned who we're connecting to.

22 THE COURT: So that has nothing to do with dropped
23 calls, does it?

24 THE WITNESS: Well, we would want to know the
25 percentage of drop -- or how often we're dropping and where

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Petersohn - Cross

1 we're dropping.

2 THE COURT: I'm still not following. Let me try it
3 again.

4 Let's say the question is, do the calls connect to
5 towers in the immediate vicinity. And in my hypothetical, ten
6 calls are placed, and five of them don't connect at all. The
7 other five connect to towers in the immediate vicinity. The
8 fact that five didn't connect at all doesn't show anything,
9 does it, about whether calls, if they do connect, connect to
10 towers in the immediate vicinity?

11 THE WITNESS: Correct. That would be a 50 percent
12 adverse call event rate of 50 percent ineffective --

13 THE COURT: Well, let's assume you had three different
14 sets of calls, and in the first 20 percent were dropped calls
15 and 80 percent connected to the cell phones in the immediate
16 vicinity.

17 In the second, 50 percent were dropped calls and the
18 other 50 percent connected to phones in the immediate vicinity.

19 And in the last, 90 percent were dropped calls and ten
20 percent connected to calls in the immediate vicinity.

21 That would still be consistent with the hypothesis
22 that when calls connect, they connect to cells in the immediate
23 vicinity, wouldn't it?

24 THE WITNESS: Correct.

25 THE COURT: That's why I'm having trouble.

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Petersohn - Cross

1 MS. HARRIS: May I ask a few followup questions, your
2 Honor?

3 THE COURT: Of course.

4 BY MS. HARRIS:

5 Q. In the hundreds of hundreds of drives tests that you've
6 conducted for a variety of purposes, has there ever been a
7 drive test -- withdrawn.

8 In the hundreds of drive tests that you've conducted,
9 there's never been a drive test in which a dropped call is not
10 a relevant piece of data, correct?

11 A. Where a dropped call is not a relevant piece of data?

12 Q. Isn't it always relevant if a call is dropped on any of the
13 drive tests that you've conducted?

14 THE COURT: Relevant to what?

15 A. No.

16 Q. To --

17 THE COURT: Pardon? I'm objecting to the question.

18 MS. HARRIS: Fair, Judge. Fair.

19 Q. Let me put it this way: Have you ever done a drive test
20 where the sole purpose of the drive test was to determine
21 whether the cell phone was connecting with the closest or
22 second closest tower?

23 A. No.

24 Q. That's not why drive tests are done, correct?

25 A. Never the sole purpose.

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Petersohn - Cross

1 Q. It might be a relevant fact in connection with other data
2 that you're collecting, correct?

3 A. It's not something we would drive for because it's really a
4 given. It's --

5 Q. As long as the network -- as long as you have a signal and
6 the cell phone is connecting to a tower, that's the relevant
7 piece of information, correct?

8 A. Well, no, we want to see which tower as you move through
9 the environment you're connecting to, but we know that it's
10 going to be one of the towers in the vicinity. We do the drive
11 tests to get into the minutiae of where it hands off between
12 tower A to B that are the two closest --

13 Q. Fair. That's for the handoff issue to make sure there's
14 seamless coverage; that someone is traveling and they don't
15 have a dropped call, for example, in the middle of a telephone
16 call, correct?

17 A. Or that you're not dragging site A too far into site B's
18 area because of any number of reasons.

19 Q. Well --

20 THE COURT: I'm sorry. Maybe I haven't fully
21 understood. What's a drive test?

22 THE WITNESS: So, drive test would be, you know, when
23 you're out on the road with specific specialized equipment and
24 software collecting information about the network through the
25 use of scanners, phones, sometimes both.

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Petersohn - Cross

1 THE COURT: What's the purpose -- what's the ordinary
2 purpose of a drive test?

3 THE WITNESS: Well, the purpose of having the phones
4 on board is to actually test the interaction with the network.
5 And then having the scanner on board, which is back to the
6 purpose of our drive here, but having a scanner on board, we
7 use an externally mounted antenna with the scanner, that way we
8 can see what servers are getting -- you know, what sites are
9 getting into an area, and can we compare that to our
10 propagation model. That was really the purpose of our drive.

11 THE COURT: And you compare that to a?

12 THE WITNESS: To a propagation modeling.

13 THE COURT: What is a propagation model?

14 THE WITNESS: It's computer software we use at our
15 desks where we can say here's our existing site of sites.
16 Here's the environment. We know how tall the trees are. We
17 know what the terrain looks like. And then we can model how
18 the cellular network will behave in a given area, and we use
19 that very commonly, much more so than drive testing. When
20 we're putting on evidence for municipal-type hearings, we
21 demonstrate a gap in coverage typically through propagation
22 modeling, and 99 times out of a hundred that's the accepted
23 method and really all we need to do. It is the exception when
24 we need to actually do drive testing for a municipal hearing
25 and then into a court case.

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Petersohn - Cross

1 THE COURT: So you've been hired, have you not, to do
2 drive tests?

3 THE WITNESS: I have.

4 THE COURT: And the people who hired you -- I'm not
5 talking about this unusual case that we just looked at, but in
6 the normal commercial sense, what is the reason you're being
7 asked to do a drive test?

8 THE WITNESS: In the case of a municipal hearing would
9 be to either demonstrate or corroborate that our propagation
10 modeling is accurate and/or to establish the existence of a gap
11 through adverse call event statistics.

12 THE COURT: So it's not for the purpose -- I think
13 this is what counsel was just getting at. It's not for the
14 purpose of determining which sites non-adverse calls connect
15 to.

16 THE WITNESS: Right, not in the case of a municipal
17 hearing where we may need a tower approved.

18 THE COURT: But you observe that from the data that it
19 generates?

20 THE WITNESS: You could if you want to look at that
21 aspect of the drive, but generally that's not important for
22 this type of drive.

23 THE COURT: Right. So if it's your opinion that the
24 calls in this case connected to nearby cell sites, it has
25 nothing do with your experience in conducting drive tests, does

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Petersohn - Cross

1 it?

2 THE WITNESS: Well, this is just one type of drive
3 test that we would do for, let's say, a municipal hearing. The
4 majority of the drive tests I've done over the years were
5 connected to baseline drive testing for the carriers who were
6 looking at their performance where we are concerned with --

7 THE COURT: Well, that's what I was trying to get at
8 before when I said normal. So normally you're hired by a
9 carrier to do a drive test?

10 THE WITNESS: Yeah. Yeah, typically or a tower
11 developer or --

12 THE COURT: And the purpose there is to see how well
13 or how poorly the equipment is operating in terms of
14 connectivity?

15 THE WITNESS: Well, it depends on what the -- what the
16 scope of work is. If it's -- it really depends on the scope of
17 work.

18 THE COURT: All right, counsel.

19 MS. HARRIS: I'm going to ask maybe a few followup
20 questions along these lines.

21 BY MS. HARRIS:

22 Q. It's hypothetically possible to do a drive test to document
23 whether a cell phone connects with the closest or second
24 closest tower, correct?

25 A. Is it hypothetically possible, is that the question?

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Petersohn - Cross

1 Q. Yes, right.

2 A. Yeah, for sure.

3 Q. But the drive tests that you've conducted were never
4 conducted for that particular purpose, correct?

5 A. Are we talking about the drive tests in general or...

6 Q. The drive tests that you over the 25 years that you've been
7 doing this, the drive tests that you've conducted, you've never
8 conducted in order for the sole purpose of determining whether
9 it's connecting to the closest or second closest cell site?

10 A. No, that would never be the sole purpose of a drive test.

11 Q. And, in fact -- and going back to this case from 2009, in
12 that case, adverse call events were a relevant data point,
13 correct, to the issue at hand in the litigation?

14 A. Were a relevant, did you say, or irrelevant?

15 Q. Were relevant.

16 A. In the opinion of the court, yes, they were relevant. We
17 were conducting our drive test more as a corroboration of the
18 propagation model, which is why we didn't look at those, and we
19 had some other drive tests that we used for that purpose in
20 this specific instance.

21 Q. And didn't the court find on page 21 that AT&T Mobility,
22 which was the company for which you were working, failed to
23 separate out the percentage of adverse call events for each
24 provider; that its failure to do so is suspect given the
25 Court's determination below?

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Petersohn - Cross

1 THE COURT: I don't see that that has anything do with
2 this Daubert hearing. You have effectively demonstrated,
3 subject to what the government will raise on redirect, that the
4 drive tests that this witness conducted were not done for the
5 primary purpose or the sole purpose of determining location,
6 and I think that's highly relevant.

7 MS. HARRIS: We'll move on, Judge, no problem.

8 THE COURT: But the fact that this magistrate judge
9 didn't like either MobileNet or some failure to -- I wouldn't
10 even allow it in a trial, I don't think. It doesn't really go
11 to this witness's credibility.

12 MS. HARRIS: It's not about credibility, your Honor.
13 It's simply because of the absence of written records about his
14 methodology and about data, this is the one document we have
15 from the hundreds of tests he's done to reflect --

16 THE COURT: I understand that --

17 MS. HARRIS: So, that's all.

18 THE COURT: I understand any port in the storm or
19 let's see what other cliché a drowning man grasp at straws, but
20 I think you should move on.

21 BY MS. HARRIS:

22 Q. So you testified that in West Farms, T-Mobile sites are
23 approximately five to six blocks apart, correct?

24 A. Correct.

25 Q. And these are macro cell sites generally, correct?

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Petersohn - Cross

1 A. I did observe some small cell type of facilities also. I
2 can't recall how many in that -- in the cluster that I did
3 observe, but the majority were macro towers, yes.

4 Q. And they each had different -- when you say macro towers,
5 you mean these are towers that are divided into three sectors
6 typically, correct?

7 A. Generally, a macro tower nowadays implies it is at least a
8 sectorized site, maybe not three, maybe two, maybe sometimes
9 four. But macro more refers to the equipment being full-power
10 equipment, and that the antennas are full arrays of antennas in
11 the sectors.

12 Q. Understood. But you didn't look at the Kingsbridge
13 neighborhood in the Bronx, correct?

14 A. Kingsbridge neighborhood, no, I don't believe so.

15 Q. You didn't look at Morris Heights, correct?

16 A. Don't believe so.

17 Q. Or East Tremont?

18 A. Don't believe so.

19 Q. In any event, your estimate about the scope of coverage is
20 just that, an estimate, correct?

21 A. Could you be more specific with the question? You mean
22 from an individual site?

23 Q. You have an opinion that the coverage area would be roughly
24 two to three blocks based on the placement of cell sites in
25 West Farms?

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Petersohn - Cross

1 A. Yes, it's in West Farms. Yeah.

2 Q. But that estimate is just an approximation, correct?

3 A. Correct, only an approximation.

4 Q. And that's because signal strength on any given day is not
5 static, it's not fixed, correct?

6 A. Right. Received signal strength will fluctuate for a
7 number of reasons.

8 Q. We talked a little bit about load density, right?

9 A. Yes.

10 Q. So busy bars might affect low density, correct?

11 A. Sure.

12 Q. Sporting events, correct?

13 A. Yes.

14 Q. Traffic network, traffic generally could affect load
15 issues, correct?

16 A. Correct.

17 Q. Service problems with a particular cell tower, correct?

18 A. Correct.

19 Q. And in response to those external factors, coverage area
20 can expand sometimes, correct?

21 A. Correct.

22 Q. And contract other times?

23 A. Correct.

24 Q. It's designed to work seamlessly so that there aren't these
25 gaps in service that the telecommunications companies are so

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Petersohn - Cross

1 concerned about, correct?

2 A. Yes.

3 Q. And they do that as needed and fluctuates over time,
4 correct?

5 A. Yes, when you say they do that though, I'm not quite sure
6 what you mean.

7 Q. I'm sorry. I'm giving a personhood to the cell site
8 towers. I'm saying the cell sites themselves and coverage
9 areas associated with them fluctuate over time depending on
10 external factors, correct?

11 A. Correct, yes.

12 Q. And you just mentioned that there are some omnidirectional
13 antennas or these micro sites that you observed?

14 A. I did observe at least two that I can recall in the area.

15 Q. And you told the government, I think, that their designed
16 or they're not designed for roughly more than a 1,000 feet
17 area, correct?

18 A. That's a typically coverage radius from a small cell or
19 micro-cell facility.

20 Q. But fair to say that your average city block is about
21 300 feet, correct?

22 A. I think that's a fair estimate. I'd have to really do some
23 scaling to say for sure, but that doesn't seem out of line.

24 Q. I know you're a Philly guy, it sounds like, right, but fair
25 to say 20 city blocks is approximately a mile, correct?

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Petersohn - Cross

1 A. It sounds plausible.

2 Q. And, again, so if 300 feet is approximately one block, a
3 thousand feet could cover three blocks, correct?

4 A. It could, yep.

5 Q. And these -- this again, is the micro site or the
6 smaller-powered sites, correct?

7 A. Right, the thousand feet I think was kind of an upper limit
8 coverage footprint that I was discussing. I wouldn't expect
9 one to cover more than that.

10 Q. And, again, fair to say that on any given day you cannot
11 determine exactly what the coverage area is because it's
12 affected by these external factors, correct?

13 A. You can't say exactly what the coverage area is, correct.

14 Q. One last topic. Phones are constantly changing towers that
15 they're pinioned to, correct?

16 A. Do you mean when they're on a call or when they're --

17 Q. Let me phrase that a little better.

18 THE COURT: She means you have to go buy a new phone
19 from Verizon every few months so they can charge more. I think
20 that's what you're getting at, right?

21 MS. HARRIS: That's right. All roads lead to the same
22 results.

23 Q. Fair to say that a phone is constantly assessing which cell
24 sites will provide it with a best quality signal, correct?

25 A. Yes.

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Petersohn - Cross

1 Q. So during a call, if you're in the middle of a call, even
2 if you're not moving, the phone could switch cell sites that it
3 connects to, correct?

4 A. Yes, it could.

5 Q. Because in the middle of the call something could be
6 happening between the cell sites that redirects the radio waves
7 to cell site B as it is now ranked higher, correct?

8 A. Right, a semi-could park next to you and, you know, block
9 the line of site to a tower that was equidistant from another
10 tower, and, yes, so any number of factors.

11 Q. That's even if the cell phone user not moving, correct?

12 A. Correct.

13 Q. And if the cell phone user is moving, for example, in a car
14 it's quite likely that the phone during a phone call would have
15 to switch towers during the course of the phone call, correct?

16 A. Yes.

17 Q. Now, you talked a lot about cell phone coverage -- excuse
18 me -- cell site tower -- sorry, it's been a long day -- cell
19 tower coverage areas overlapping, correct?

20 A. Yes.

21 Q. And their coverage areas have to overlap to ensure smooth
22 handoffs, correct?

23 A. Yes.

24 Q. So, a cell phone could be within the coverage range of
25 several cell towers at one time, correct?

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Petersohn - Cross

1 A. Yes.

2 Q. Now, I have one last question which relates to -- I think
3 we're deeming exhibits from both sides in evidence. Is that
4 fair, Mr. Balsamello?

5 The Government Exhibit -- I want to talk about
6 Government Exhibit 2 -- excuse me -- 3.

7 THE COURT: I have hard copies if you want to give the
8 witness a hard copy to move this along.

9 MS. HARRIS: Sure.

10 THE COURT: This is Government Exhibit 3, I believe.

11 BY MS. HARRIS:

12 Q. You said you verified the existence of the cell sites at
13 issue in this case by using Google Earth and Google Earth Pro,
14 I believe, correct?

15 A. Yes.

16 Q. Is this one of the -- I'm not exactly sure, is this one of
17 the documents you used as a printout of the photographs you
18 reviewed?

19 A. Yes, I -- this is the document that I produced, yes.

20 Q. Just for the sake of completeness, I'm going to also give
21 the witness Government Exhibit 5, which is a similar
22 document --

23 THE COURT: Let me see what you're looking at. Yes,
24 to confirm for the record, this is Government Exhibit 3. Go
25 ahead.

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Petersohn - Cross

1 MS. HARRIS: This is Government Exhibit 5, which I'm
2 also handing the witness, your Honor.

3 THE COURT: Okay.

4 Q. Looking at Government Exhibit 3, the first photograph has a
5 little mini screen shot that says August 2011, correct?

6 A. Yes. Yeah, the -- the inset photograph does have that says
7 street view - August 2011.

8 Q. I think you said on direct that you were able to verify
9 cell sites that were involved in this case at or around the
10 time of the events in question. Is that right?

11 A. I don't remember the exact phrasing I used, but that sounds
12 like something I'd say, yes.

13 Q. When you went through the cell site and you got the
14 latitude and longitude for each of the cell sites at issue in
15 this case, correct?

16 A. Yes.

17 Q. And then you plugged those into Google Earth and tried to
18 look to see if you could actually see a cell site, correct?

19 A. That's right.

20 Q. But you had to use a historical version, is that right, of
21 Google Earth to go back in time, correct?

22 A. That's right.

23 Q. Now, did you ever encounter problems in accessing a street
24 view or a clear enough view in the historical Google Earth in
25 order to make a determination that the cell sites were in

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Petersohn - Cross

1 existence in 2016 or 2017?

2 A. I don't think there was as much of a clarity issue as more
3 available dates type of issue that hampered. So when there
4 wasn't a date close, I would always go prior, you know, knowing
5 that it was there prior. It's very, very rare that any type of
6 facilities are decommissioned. I only know of a couple, and
7 they were for extreme cases. So, if there's a facility there,
8 let's say, as in the first case here in August of 2011, I think
9 that says, there's an extremely high likelihood that it would
10 be there in '16 and '17.

11 Q. But sitting here today, can you tell us for which cell
12 sites that the government on the list the government gave you
13 were you not able to use maps or visuals in existence of the
14 dates in question December 2016 and June 2017 to verify the
15 existence of the cell site?

16 A. I guess I'd have to piece through here and count, but it
17 was -- it was -- it would have been rare to find a
18 November 2016, not to say that there isn't one in here, but
19 they don't -- Google doesn't drive these, you know, every month
20 or every week or every -- as far as I know on any type of
21 seemingly set schedule. I'm sure they have some schedule, but
22 it doesn't seem to be a clockwork-type fashion where it's every
23 year. So we kind of can only -- we can only rely on what's
24 available, and in some cases the date was significantly prior
25 to the date entry in the CDR.

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Petersohn - Cross

1 Q. So, for example, in the first page of Government Exhibit 3,
2 there's a picture of a building, and then the inset says
3 August 2011. Can you tell us for which cell site this
4 corresponds, this image?

5 A. So, it's the cell site -- this is a small cell that is
6 represented in the CDR with the address of 1751 Jerome Ave.
7 although I note here that that cell site is not at 1751 Jerome
8 Ave. It is at the latitude and longitude given in the CDR. I
9 have my suspicions as to why that is, but I don't know for sure
10 why there is that mismatch, but again, we rely on the latitude
11 and longitude of the CDR, not necessarily address.

12 Q. So, if we have in Government Exhibit 3 a picture from
13 August 2011, that means that that's the closest date that you
14 were able to find in Google Earth to correspond to the latitude
15 and longitude and the dates in question in this case, correct?

16 A. I think so. I'd have to recreate the creation of this, and
17 double check that to say for sure that there wasn't an
18 available date closer and perhaps I just scrolled too far back
19 or missed it, but I would assume so, yes.

20 Q. So it looks like for -- we just talked about August 2011,
21 but it looks like the one below it is for June 2014, correct?

22 A. Correct.

23 Q. If we turn the page on Government Exhibit 3, there's one
24 on, I guess it's the third page, from August 2012, correct?

25 A. Yes.

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Petersohn - Cross

1 Q. And then turning your attention to Government Exhibit 5, on
2 the first page, could you explain -- withdrawn.

3 Is there any way to determine whether this image, what
4 date in Google Earth or historical Google Earth this image is
5 taken from?

6 A. There is a scale that's not really visible in the top left
7 here that has the date slider on it, and if we have the
8 electronic version, maybe we could zoom in on that, but I don't
9 think from this version we can tell.

10 Q. So we don't know --

11 A. Not from this version of the document. I think from the
12 electronic document we could zoom in and see what that date is,
13 but not on this paper version.

14 Q. I'm actually not sure we have interactive exhibits provided
15 to us by the government, but, in any event, this page, first
16 page of Government Exhibit 5 is the red dot on the photograph
17 where you believe you were able to identify the cell site?

18 A. The red dot are the locations from either the CDR or the
19 historical cell site location. Actually, I take that back.
20 They are from the -- red dots from the historical cell site
21 location information data that I was given.

22 Q. And it's your testimony that you were actually able
23 somewhere on this photograph to identify a cell site in
24 existence?

25 A. Yes, in the electronic copy. And as I look at it now, it's

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Petersohn - Cross

1 difficult to see what I saw. I believe some of the shadows in
2 the western -- if we look at the picture below, we can see
3 there is an antenna array on the western corner of that
4 building. And although it doesn't look like much to most
5 people, but I look at a lot of these so I can kind of pick out
6 what I would believe to be antenna array shadows, and I see
7 some on that western side of the upper picture. So I had a
8 very strong feeling that there was a cellular facility there in
9 this picture, although the picture is admittedly pretty blurry.

10 Q. Again, looking at the image we put in front of you, you
11 can't tell what date this was taken, this Google image was
12 taken, correct?

13 A. No, not from this, but again, from the electronic copy that
14 I provided, I believe you can zoom in there.

15 Q. Fair to say that when there's renovation or construction,
16 cell site towers move, correct?

17 A. Occasionally. It's not very common.

18 Q. Well, if a building is demolished, correct.

19 A. Correct.

20 Q. And a new building is built up?

21 A. Correct.

22 Q. And, in fact, new towers might be moved -- towers might be
23 moved in connection with optimizing cellular coverage, correct?

24 A. No, not really, not -- we don't tend to move them just for
25 an optimization reason, we wouldn't pick up and move them. We

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Petersohn - Cross

1 may construct another or we may seek to modify, move the
2 antennas around a little on a rooftop. It's very, very rare we
3 would actually pick up and move a site just for an optimization
4 reason.

5 Q. If you're upgrading network from 3G, 4G, 5G, you might need
6 a new cell site, correct?

7 A. What we typically do is we leverage the existing assets, so
8 if we have a lease for a rooftop and we already have a sector
9 of antennas there, we'll swap out an antenna to add the 4G or
10 5G or we'll add some radios to an existing cell site. It's not
11 to say we don't build new sites. We build new sites and
12 densify the network.

13 Q. Just to be clear, you don't service T-Mobile in the West
14 Farms area of the Bronx, correct?

15 A. When you say service, do you mean service the sites or --

16 Q. Correct.

17 A. No, I don't service the sites for T-Mobile anywhere.

18 Q. And you aren't familiar with how frequently they're built
19 or taken down in the West Farms area of the Bronx, correct?

20 A. Not specifically, no. These are general practices of
21 nationwide companies.

22 MS. HARRIS: Can you hold on one minute, your Honor?

23 I have no further questions, Judge.

24 THE COURT: Redirect.

25 MR. BALSAMELLO: Thank you, your Honor.

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Petersohn - Redirect

1 REDIRECT EXAMINATION

2 BY MR. BALSAMELLO:

3 Q. A few matters regarding exhibits. With the Court's
4 permission, Ms. Hernandez, can you pull up Google street view,
5 the actual website on our screen right now, for the Court and
6 witness and parties.

7 THE COURT: It's okay with me, but I must say, I don't
8 see the relevance from a Daubert hearing of this whole
9 discussion from either side. If the question is how do you
10 know that the sites that are supposed to have been at locations
11 X, Y and Z were actually there at the relevant time, and the
12 answer is we know because we saw them on the Google
13 photographs, that doesn't in my mind implicate any question of
14 expertise.

15 The jury can say that's not a good method because, as
16 was pointed out, we don't have the dates in some of these
17 photographs and building can be demolished and so forth. And
18 the government can say, well, it's still pretty good for
19 whatever reason. I don't understand how any of that raises a
20 Daubert issue. It's a classic cross-examination issue for the
21 jury. They can evaluate from their own experience.

22 MR. BALSAMELLO: If the Court has concerns about this
23 issue, we can address everything that was just raised on cross,
24 but I won't belabor the point if it doesn't serve any purpose
25 of this motion for the Court.

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Petersohn - Redirect

1 THE COURT: Go ahead. Move on to something else.

2 BY MR. BALSAMELLO:

3 Q. Mr. Petersohn, do you recall in cross-examination you were
4 asked whether, I believe the phrase was it would be a problem
5 for mapping a communication if the location data for that call
6 or that text were omitted from the CDR, you would be unable to
7 map the location, the cell site hit if the data were omitted,
8 right?

9 A. If there were a latitude-longitude omission, there would be
10 nothing to map, so we couldn't map it.

11 Q. Would the inability to map one entry on a CDR because of
12 the omitted data have any bearing on the accuracy or the
13 ability to map the communications for which data is present?

14 A. No.

15 Q. Mr. Petersohn, you were asked, I believe a few times, if a
16 phone is trying to connect to option A, but it can't because of
17 obstructions, it would look for option B, right?

18 A. Yes.

19 Q. I believe the phrasing used on cross-examination was that
20 why the phone would consider option B would be based on
21 strength and clarity or quality, not necessarily on the
22 proximity of the second closest site, correct?

23 A. Correct.

24 Q. What, if any, factor weighs most heavily in determining
25 which ultimately is the strongest and clearest?

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Petersohn - Redirect

1 A. Number one would be proximity. And then the other factors
2 that we've already discussed: Obstructions, manmade clutter,
3 environmental clutter, terrain.

4 Q. Turning to drive tests. Are there certain types of drive
5 tests you've done where even if the sole purpose wasn't to
6 observe which towers a phone was connecting to, you
7 nevertheless were observing which towers they were connecting
8 to?

9 A. Yes.

10 Q. What kind of drive tests were those? What was the purpose
11 of those tests?

12 A. Performance evaluating drive tests where in realtime
13 through the software we can move the -- we can move things
14 temporally where we can watch second-by-second the phone travel
15 through the geography; and as we're moving through time, the
16 software will actually show you what cell is serving, what your
17 second best serving cell is, your third, etc. As you move
18 through the geography, and using the sophisticated software,
19 we're actually recreating back at our desks after collecting
20 data the exact chronology of the call.

21 Q. And of the many drive tests you've done, can you
22 approximate how many have been of that sort as opposed to the
23 municipal hearing types that you've testified about?

24 A. Hundreds, hundreds of the aforementioned.

25 Q. And are those the tests you were referring to when you

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Petersohn - Redirect

1 testified about your observations that phones typically connect
2 to that or consistently connect to that first tier of sites?

3 A. Yes.

4 MR. BALSAMELLO: One moment, your Honor.

5 THE COURT: All right. Anything else?

6 MR. BALSAMELLO: I'm sorry, just one moment.

7 Your Honor, unless there are any other issues that the
8 Court had for this witness, the government has nothing further.

9 THE COURT: I have nothing more. But if defense
10 counsel has any surrebuttal.

11 MS. HARRIS: Very kind invitation, but nothing
12 further, Judge.

13 THE COURT: Very good. Very good. You may step down.

14 (Witness excused)

15 THE WITNESS: Would you like me to remain available?

16 THE COURT: No. I mean, it's a public court. You're
17 welcome to sit here and watch, but if you would prefer to go
18 home, where is home?

19 THE WITNESS: Back to Philadelphia.

20 (Discussion off the record)

21 THE COURT: Just before we take a break, I don't see
22 any reason to call any other witness.

23 MR. BALSAMELLO: The government was going to propose
24 the same, your Honor. We think we've covered the issues. We
25 have an individual from T-Mobile.

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Petersohn - Redirect

1 THE COURT: I think we will take a break, and then I
2 will hear oral argument on any of the issues that have been
3 raised. Ten minute break.

4 (Recess)

5 THE COURT: Before I forget, let me thank the marshals
6 for being so good. This hearing going late. I'm sorry it's
7 going so late, but it will be over fairly soon.

8 Let me hear from -- I don't -- I'm happy to hear
9 anything you want to say about any issue, but the question of
10 403, which I determined in excluding the government's witness
11 in a prior recent case, Nieves, was very, very, very much
12 impacted by what had occurred in the trial before then. And
13 that's true in my view of most 403 rulings. I doubt I am --
14 I'm skeptical that a 403 basis for excluding a witness here is
15 likely to prevail given Second Circuit view of Rule 403. But
16 even assuming it did, I don't see how I could make a 403
17 determination until right before the witness is offered at
18 trial.

19 So you're welcome to say anything you want, but you
20 will have plenty of future opportunities and more relevant
21 opportunities later on.

22 As for the motion to suppress, I think I have on paper
23 everything I need on that with the possible exception of
24 anything defense counsel wants to argue based on the March 20
25 warrant; but we'll hear from counsel in a minute.

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Petersohn - Redirect

1 And as for the motion to compel discovery of
2 contraband cell phone use at the MCC, that motion is denied for
3 reasons I will set forth in writing.

4 And the motion to sever Mr. Scales' trial from
5 Mr. Horge's trial has already been granted.

6 So, there you go, you are batting 500 at the moment,
7 by comparison with the Yankees who are batting about 110.

8 So, in any event, what I do want to hear argument on
9 is the Daubert issue.

10 Let me hear first from defense counsel.

11 MS. HARRIS: Thank you, Judge. If I stand up
12 straight, you can still hear me?

13 THE COURT: Why don't you go over to the roster,
14 that's probably best.

15 MS. HARRIS: Okay. So, in large part, I think between
16 witness, the government and us, we agree about many things,
17 which is about the way radio waves work and certainly the way
18 the system is intended to work, cell site networks are intended
19 to work, and that is often or sometimes the cell site with the
20 strongest signal is often a cell site in close proximity to the
21 cell phone user.

22 THE COURT: So, here is what I gathered from the
23 testimony and you might want to attack it if you think I have
24 misunderstood it. It seems to me that this witness was able
25 through his training and his understanding of how cell phones

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Petersohn - Redirect

1 and cell towers work to make at least an admissible case that
2 the physics of it are that the cell phones are programmed to
3 seek the strongest signal they can find, and the strongest
4 signal they can find is first and foremost a matter of
5 proximity, though it can also be affected by obstructions and
6 things of that sort. And the only other relevant issue is not
7 a Daubert issue, which is where the cell phones -- where the
8 cell towers, where they purportedly are said to be or is the
9 Google photographs not an adequate way to establish that,
10 that's not a Daubert issue because the jury can evaluate that
11 just as well as any other person that's it's not a scientific
12 issue at all. It's a simple matter of lay argument.

13 So, all the rest seems to me to be window dressing at
14 best. By the way, there are plenty of other things that I'm
15 sure defense counsel will want to inquire about at trial, like
16 even assuming he was in the vicinity, of course he was in the
17 vicinity, he was visiting his mother or his cousin or whatever,
18 and they were all within the vicinity, and there can be a
19 debate about how far the vicinity extends.

20 But I think the Daubert issue really all comes down
21 basically to the physics of how cell phones operate and the
22 fact that given that cell phone signal strength decreases
23 inversely with the square of the distance, there is a built-in
24 strong likelihood that the strongest connection will be the one
25 that's closest or at least certainly in the near vicinity. And

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1 why isn't that enough to allow this evidence in?

2 MS. HARRIS: So, just to frame the question as I
3 understand it, your Honor, the Daubert question, we're using
4 Daubert obviously to refer to the controlling Supreme Court
5 precedent, but that itself was looking at the linchpin of
6 reliability which is obviously embedded within Rule 702 as the
7 gatekeeping principle for whether or not evidence should come
8 in. So in terms of I would say the scientific methodology --
9 and I do have concerns about that, and I'm going to talk about
10 that, and address that specifically, but I think the question
11 of the Google maps or the question of what does the first tier
12 of cell phones -- cell sites mean in terms of numbers and
13 distance all go to the question of reliability because,
14 frankly, if the expert testimony -- if the expert is to say --
15 he didn't say this, but hypothetically you can roughly
16 determine within a half mile radius of where someone is, that's
17 not very relevant -- that's relevant to deciding if this is
18 sufficiently reliable evidence for the government to use in a
19 prosecution for the kinds of crimes we're talking about here.

20 THE COURT: No. No. This was a little bit what we
21 discussed at the sidebar. If the government says -- I'll put
22 it in hypothetical terms.

23 Mr. Jones on January 4, 1890 was at 42nd Street and
24 Times Square, and all the cell phone shows is at least a
25 permissible inference that he was in the general vicinity of

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Petersohn - Redirect

1 Times Square, but he might have been six blocks away, he might
2 have been, in the defense's view, 10 blocks away or 15 blocks
3 away, it would still be relevant evidence as opposed to
4 showing, oh no, he was in Weehawken or Plymouth Meeting. So I
5 think that's all the government is offering this for.

6 MS. HARRIS: Well, I agree with your Honor, so we will
7 defer that discussion to closer to trial where I think both the
8 Court and all of us will have a better idea of exactly what the
9 government is going to try to do.

10 THE COURT: You think it's more prejudicial than
11 probative.

12 MS. HARRIS: Right. So I'm happy to defer that
13 question.

14 I think with respect to the question of science, your
15 Honor, there is a third part to the question your Honor posed,
16 which is, yes, radio waves work this way; yes, the equation
17 means that strength of signal dissipates over distance --
18 though I don't think the witness was clear over what
19 distance -- but over distance, and that systems are designed
20 such that cell phones connect to the strongest signal. Those
21 two propositions we don't dispute. But I think there's a third
22 part which is important, which is that every -- the witness
23 himself admitted that it's not always true, obviously, that the
24 strongest signal is the closest signal. It's just not. It's
25 not a fact in the world. And that's a fairly common

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Petersohn - Redirect

1 occurrence.

2 And the question we would ask the Court to consider
3 for Daubert purposes is how often does it not connect to the
4 closest signal, to the closest cell site, or how often does it
5 connect to the top tier -- excuse me -- the first tier, which
6 could include four cell sites in the vicinity. And that
7 question, which is the likelihood ratio -- that's the comfort
8 zone of probability saying how likely is it? And the witness
9 gave is opinion that said in the vast majority of cases, it's
10 going to connect. And it's that opinion that we are all
11 relying upon to have this evidence come into court in this
12 trial.

13 THE COURT: Just so I understand the point you're
14 making, everyone agrees that it goes to the strongest signal
15 and that the strongest signal is not necessarily from the
16 nearest tower, the geographically nearest tower. But to answer
17 how often it goes to a different tower, one needs to know what
18 obstructions there are, how close the other towers are. If the
19 other towers are all very close, as the witness indicated, and
20 if the obstructions are more or less, you know, endemic to this
21 part of the Bronx, a reasonable jury could conclude that it
22 wasn't necessarily this tower, it might have been this or this
23 or this other tower, but they were all still in the same
24 vicinity, which is all I think the government is trying to get
25 from this witness.

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1 MS. HARRIS: Your Honor --

2 THE COURT: For you to have a Daubert argument, you
3 would have to say, no, it would go to a cell tower or at least
4 it is reasonably likely to go to a cell tower that is five
5 miles away or even --

6 MS. HARRIS: No.

7 THE COURT: -- one mile away, and there is no basis I
8 think for that suggestion on the evidence presented here.

9 MS. HARRIS: So, if that is the Court's standard,
10 you're right, we're not going to be able to make a one-mile or
11 five-mile argument. But I submit -- and I think we're going to
12 end up revisiting this issue in full on a 403-related ground
13 when we specifically examine the government's exhibits and the
14 maps that they've presented, but I do believe that the question
15 that the witness revealed that the underpinning for his opinion
16 that in the vast majority of cases, it always connects to
17 either the closest or a cell site within the first tier, which
18 is a grouping, a loosely grouped "in the vicinity" kind of
19 amorphous category of cell sites. My Daubert claim is that
20 that opinion is not supported by any scientific methodology, by
21 any data, by any test. And I will submit your Honor it is
22 possible to do that, you know --

23 THE COURT: I'm sorry.

24 MS. HARRIS: It is possible. Someone in the world who
25 wanted to make this -- this is essentially an off-label use of

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Petersohn - Redirect

1 cell site technology, what the law enforcement does in all
2 these cases because it was not designed for this purpose; the
3 records are not collected for that purpose. The drive tests
4 that are conducted by people like Mr. Petersohn are not
5 conducted for this purpose. Someone could conduct a drive test
6 survey and could collect scientific data to say over time and
7 in different situations how frequently --

8 THE COURT: Yes, I agree with that, but I don't see
9 that that is a sufficient reason to exclude the evidence. What
10 you are saying is, there's still an element of uncertainty that
11 could be minimized by conducting the kind of drive tests you
12 have in mind, and that may well be true. The government is
13 stuck with what was done, but unless what was done is
14 insufficient to give rise to meet the Daubert standard of
15 reliability, other than that, it's still admissible.

16 But let me hear from the government. We'll come back
17 to defense counsel in a minute.

18 MR. BALSAMELLO: Thank you, your Honor.

19 I don't have very much to add. I think the Court has
20 summarized the testimony and the government's view of the
21 situation quite well. I think we intend to offer, as I've seen
22 historically in cases in our office, testimony that
23 appropriately acknowledges the nature of this evidence, and the
24 aspects of the evidence that the defense is pointing out could
25 go to its weight and the possibility that a phone is not

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1 connecting to the absolute nearest. That's routinely part of
2 the testimony we put on as part of a cell site presentation,
3 and we would do that here. I think many of these issues, if
4 they're not raised on direct -- and many of them will be -- may
5 be fertile ground for cross-examination. But Mr. Petersohn, I
6 believe, established that the science itself is quite sound.
7 And Mr. Donaldson, I believe -- who would be our testifying
8 expert at trial, because he did the mapping, he's the one who
9 plotted the map -- when he testifies about what he has learned,
10 the principles about how cell sites work, the Court should now
11 have, we believe, ample comfort that those principles are
12 accurate.

13 THE COURT: The only thing that gave me a little
14 trouble -- I don't know that anything was added. Maybe
15 something that contributed to confusion was the distinction
16 between tier one, tier two, etc. Again, I think the physics of
17 it is that these phones are programmed to seek the strongest
18 signal. That signal is, a reasonable jury could find, much
19 more likely to be generated by something, by a tower in the
20 vicinity than one that's not in the vicinity because of the
21 overwhelming tendency of the signal to decrease geometrically
22 with distance. And so I don't know that anything wonderful was
23 added other than possibly confusion by talking about tier one,
24 tier two, or whatever.

25 MR. BALSAMELLO: I think my interpretation -- and the

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1 Court obviously may have heard the differently, but my
2 interpretation of the use of tier one was a way to say if a
3 phone is in the middle of a circle of towers, tier one is
4 simply that nearest band of towers; that it's the closest one
5 in each direction; it's the most proximate.

6 THE COURT: Well, if it's just, as you say, reducible
7 to simple English, then maybe we should just reduce it to
8 simple English and forget about tier one.

9 MR. BALSAMELLO: I agree. I don't think Mr. Donaldson
10 would use the phrasing of tier one versus tier two. I think he
11 would simply say connect to the strongest and clearest. Your
12 Honor had started to raise this at sidebar, the actual
13 conclusion is typically dependent, as Mr. Petersohn alluded to
14 as well, on the layouts of the other sites nearby, so map by
15 map Mr. Donaldson would be testifying that his opinion is that
16 the phone was likely in a geographical range that in part is
17 informed by where the other sites are because if it were much
18 closer to another site, it would more likely have connected to
19 that one. So that's what we anticipate that the testimony will
20 show.

21 THE COURT: I should remind everyone in that regard
22 that the defense has not said otherwise; that the test under
23 Daubert, the standard is still a-more-likely-than-not standard.
24 It's not a-beyond-a-reasonable-doubt standard. The ultimate
25 burden is beyond a reasonable doubt. But with respect to any

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1 given item of evidence, it simply has to meet the basic 401,
2 402 standard if it's more likely than not to contribute to
3 determining some issue in the case.

4 But let me hear finally from defense counsel.

5 MS. HARRIS: Your Honor, I recognize the Court has, I
6 think, indicated which way it's leaning. I'm not going to
7 belabor the point. The only thing I want to say, because I
8 think it preserves what I believe to be anticipated argument
9 down the road and sort of flag it for the Court, which is I
10 believe that a Daubert evaluation should be in conjunction with
11 the specific opinion that's being offered, right? You know,
12 it's not just that -- there is a question, obviously, is this
13 field or is this science relevant --

14 THE COURT: No. No. That's a good point. So here is
15 what I think we should do. Forgive me for interrupting, but
16 it's late.

17 I'm going to deny the Daubert motion with the
18 following qualification: That the government needs to present
19 to the Court and defense counsel in writing before the start of
20 the trial a specific statement of what the ultimate opinion
21 this witness will give and what the basis for that opinion is.
22 A lot of that we heard, but I want it clarified for the very
23 reasons you've just indicated so that he doesn't get on the
24 stand and -- so, for example, I don't want to hear "tier one"
25 at trial. And all of this, of course, is without prejudice to

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1 your 403 motion, which I'm simply reserving on for now.

2 But I think in light of the discussion here today and
3 in light of my ruling now that he has satisfied -- that the
4 government has satisfied the Daubert standard, we should have a
5 re-casting in writing of exactly what his opinion is going to
6 be and exactly what the basis for that opinion is.

7 Yes, sir?

8 MR. BALSAMELLO: May I just ask a qualifying question.
9 Mr. Donaldson's presentation, I believe, is about 20 slides
10 long, and each one of them is a different map. Some of them
11 have just one location; some have three or four.

12 There's a general formulation I think his opinion will
13 always take, which is that the phone was likely in the
14 direction of the sector, a certain distance approximately
15 equidistant to the nearest tower in that direction. We will
16 obviously craft that more specifically and write it and be
17 thorough, but would that sort of general framework as opposed
18 to a slide-by-slide, one street at a time --

19 THE COURT: No. No. You don't have to give me all
20 that. That's why we had this hearing, but what I'm thinking of
21 are some of the points defense counsel I thought had scored on.
22 I don't think the tier one, tier two formulation is of any use.
23 I think it's confusing. I don't think the drive test, except
24 in a limited respect brought out on redirect, should be part of
25 the basis. The other drive tests were irrelevant, as near as I

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1 could tell.

2 Now, I don't agree with the defense that the mere fact
3 that the drive tests were never recorded, and he doesn't
4 remember much about them and all like that, is itself a ground
5 for excluding reference to that; but the only relevant drive
6 test, as near as I can see, were ones that were conducted, as I
7 think he indicated on redirect, for the purpose of determining
8 the adequacy of the connections in certain vicinities.

9 So, just to make clear what I'm saying, the fact that
10 he doesn't have data on the drive tests that he conducted in
11 the past is neither here nor there. That goes to weight, not
12 to the admissibility. A plumber could get on the stand and
13 say, "I've conducted a thousand examinations of cracked pipes
14 and here's why they cracked," and the fact that he didn't keep
15 a record of any of those goes to cross-examination weight but
16 doesn't go to admissibility.

17 On the other hand, I didn't see the relevancy of the
18 drive tests other than in the limited respect brought out on
19 redirect. So if that is of guidance, I offer that.

20 MR. BALSAMELLO: It is, your Honor. I would note
21 though, just to make sure that there is not confusion and that
22 we are proceeding as the Court expects, our intention is at
23 this point in the first instance to call only Mr. Donaldson.

24 THE COURT: Oh, just Mr. Donaldson?

25 MR. BALSAMELLO: Correct, that would be our intention

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1 at this time.

2 THE COURT: No, that I don't see at all. What's
3 Mr. Donaldson -- Mr. Donaldson, when I questioned him in the
4 Daubert hearing in the Nieves trial -- and I must admit my
5 questions were more pointed than in earlier cases where I
6 admitted his testimony because like every other judge, I get
7 more educated as time goes on -- was, "Can you tell me anything
8 about the physics of how this operates?" And the answer was,
9 "Well, not really. I'm not an engineer. I don't -- you know
10 I've read in books, none of which were expert treatises, just,
11 you know, books, about how this supposedly operates." That's
12 about pretty much all he could say.

13 MR. BALSAMELLO: I believe, your Honor, though
14 Mr. Donaldson, I would submit, said a bit more than that, and
15 that he did set forth essentially the same scientific
16 principles that Mr. Petersohn did today.

17 THE COURT: But he wasn't a scientist. How did he
18 know this? He only knew it by hearsay.

19 MR. BALSAMELLO: I would submit, your Honor, that
20 Mr. Donaldson's testimony is then a matter of -- that he is
21 plotting and mapping and following a process of analyzing the
22 data. To the extent the Court was concerned with whether --

23 THE COURT: I am not going to exclude him, and if you
24 think there's something he can add to this witness's testimony
25 in other respects, that's fair game. I will consider the

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1 defense argument that it's too much and it carries too much
2 weight and all that stuff, but I'm not likely to be convinced
3 by that. So if you want to call them both, you can.

4 But I don't see how -- if the question were put to
5 Mr. Donaldson -- and I haven't gone back and looked at the
6 Nieves questions, so I'm doing this from memory, but if the
7 question were now put to Mr. Donaldson, "What's the physics of
8 how this operates? Tell me about wavelength. Tell me about
9 how wavelength decreases with distance." He would either say,
10 "I don't know" or he would say, "I don't know from my
11 expertise, I only know because I read about it in some book."
12 And that's not going to be sufficient to overcome a Daubert
13 challenge. This witness does overcome a Daubert challenge, as
14 I've already ruled, and this witness is your necessary
15 predicate. If you then want to call Mr. Donaldson because you
16 think he has additional things to add, that's fine.

17 MR. BALSAMELLO: I think actually then -- to use the
18 phrasing your Honor just did -- Mr. Donaldson is the necessary
19 predicate because he would be introducing simply the plotting
20 of the CDRs. He took the latitudes and longitudes and put them
21 on a map, which I would submit to your Honor does not require
22 engineering expertise.

23 THE COURT: But if that's all you're going to do
24 without telling how cell phones operate with cell towers, then
25 I would have to exclude it because it only has meaning if you

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1 already know how cell phones and cell towers operate.

2 MR. BALSAMELLO: No, your Honor. What I'm submitting
3 is that Mr. Donaldson would testify to put in those maps which
4 produced to counsel, and he would authenticate that "I used
5 CDRs, I put them on a map" --

6 THE COURT: Subject to hearing other non-Daubert
7 objections, that's fine.

8 MR. BALSAMELLO: And Mr. Petersohn -- this is my
9 thinking right now, obviously, but then Mr. Petersohn would
10 then review those maps and be the one to opine about location.

11 THE COURT: I don't care about order.

12 MR. BALSAMELLO: Okay.

13 THE COURT: It all can be taken subject to connection,
14 and I, of course, know what Mr. Petersohn is going to say, so
15 the connection is not a hypothetical one, so to speak. But,
16 you know, that's fine. Just don't seek to offer Mr. Donaldson
17 on the science of cell phone location -- what cell phone and
18 cell tower data shows about location. That you have to show
19 through Mr. Petersohn, and then Mr. Donaldson can say, "And
20 here is how it worked out in this case. I put a dot there. I
21 drew a line there," whatever.

22 MR. BALSAMELLO: I do think, your Honor, I'll just
23 take an another swing at it; that Mr. Donaldson, even if it is
24 through his training, the conferences he's attended, his
25 literature, his book learning on the matter, has specialized

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1 and technical skill. Mr. Petersohn confirmed, I believe for
2 the Court, that the science Mr. Donaldson purports to have
3 learned, and has learned, is in fact valid, accurate and
4 reliable. That was our intention --

5 THE COURT: No. No. But the science comes with all
6 sorts of qualifications. Just to take the most obvious thing.
7 It doesn't -- the signal doesn't always go to the nearest
8 tower. Why not?

9 MR. BALSAMELLO: I believe Mr. Donaldson could testify
10 to that.

11 THE COURT: No. No. No. He would. He testified in
12 a Daubert hearing in my court to that. He knows that's true
13 from having read it, but he doesn't know the science of why
14 that's true at all.

15 MR. BALSAMELLO: I would submit, your Honor, that to
16 the extent Mr. Donaldson then on cross-examination were
17 demonstrated to have a lack of direct knowledge about the
18 precise underlying scientific principles, that would be an
19 issue that could go to weight for the defense to argue.

20 THE COURT: I don't think so. That makes a mockery of
21 Daubert.

22 MR. BALSAMELLO: Well, I would submit that Daubert is
23 an admissibility standard, but that if Mr. Donaldson is
24 testifying about principles that the Court has satisfied itself
25 are accurate --

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1 THE COURT: No. No. No. So, let me make -- so
2 there's a famous case involving whether bendectin, a drug,
3 caused breast cancer, and there were -- this case went on for
4 years. It was finally resolved by the district court in, I
5 think, Alabama, concluding it did not cause breast cancer.

6 Now, you're saying that a witness could get on the
7 stand and say, "I think bendectin causes breast cancer; that's
8 my opinion."

9 "And what's the basis for your opinion?

10 "Well, it's something I read about in the National
11 Enquirer, and that's my basis."

12 And that's would make Daubert a complete dead letter.

13 MR. BALSAMELLO: I would submit, your Honor, that
14 Mr. Donaldson would not say he's learned these things from the
15 National Enquirer.

16 THE COURT: I am sure of that, but I am also sure that
17 he didn't get it from some learned treatise either.

18 MR. BALSAMELLO: I actually -- I would resist that,
19 your Honor. I think he does -- knowing his office, I know he
20 has textbooks and treatises.

21 THE COURT: Fine. Anyway, you take your chances.
22 I've indicated my tentative ruling that if you don't call
23 Petersohn, you're not going to get Donaldson, but, you know,
24 you want to put it to the test, it will be an interesting test.

25 MR. BALSAMELLO: I have no intention of doing that,

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1 but it was a lively discussion. I appreciate it.

2 THE COURT: Okay. Very good.

3 Yes, ma'am.

4 MS. HARRIS: The only coda or sort of place holder
5 with respect to this discussion that I wanted to note is that
6 the issue of tier one, I do want -- I don't want it to fall
7 totally by the wayside because I think it's an important point,
8 and I think that Mr. Petersohn's testimony on this point is a
9 little different than, frankly, Donaldson's has been in prior
10 cases.

11 THE COURT: Well, if you want to introduce something
12 that I've excluded the government from, of course you're
13 welcome to. You then open the door, of course.

14 MS. HARRIS: No. No. No. I'm not trying to get
15 labels in or jargon in or anything like that. I just want to
16 note for the record that the opinion that Mr. Petersohn offered
17 today, his expert opinion was that in the vast majority of
18 cases, a cell phone user will connect to a cell site in tier
19 one.

20 THE COURT: Yes, but after I questioned him, I
21 reformulated that, and that's why I want the government to give
22 you in advance -- it has to be at least the day before trial --
23 exactly what he will now say. But that opinion after your
24 excellent cross-examination, the government's excellent
25 examination and my shoddy questioning, all reduce to vicinity

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1 and not tier one, tier two.

2 MS. HARRIS: That's fine. I'm not attached to the
3 jargon, but it could be a group of cell sites, not the closest
4 cell site.

5 THE COURT: Well, we'll see what they put in their
6 opinion, and you're free to challenge the wording of that
7 opinion if you think it is has departed too far from anything
8 presented at this hearing. Okay.

9 MR. BALSAMELLO: Your Honor?

10 THE COURT: Yes.

11 MR. BALSAMELLO: Instead of a separate paper filing --
12 and we can argue this later if your Honor would prefer also --
13 I do think if Mr. Petersohn then is testifying, we'd move to
14 preclude cross on that entire issue with the Pennsylvania case
15 and the opinion of the magistrate judge just as confusing and
16 irrelevant, frankly. I think your Honor --

17 THE COURT: I'm not going to rule now on what's
18 permissible for cross-examination except that my hunch is that
19 that magistrate judge's opinion is totally irrelevant, and we
20 will -- but defense counsel can offer it and I can say
21 something like "The objection is sustained" or something like
22 that. So you all take your chances. So, I think we've
23 concluded everything that we've needed to.

24 Yes?

25 MS. HARRIS: On a totally different subject, your

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1 Honor. I think we don't have any further issues on the
2 motions.

3 I will note with respect to the warrant issue, it was
4 confusing that there were two warrants for the same phone, but
5 we -- the second warrant does establish a link to the
6 particular phones seized.

7 THE COURT: Thank you for reminding me of that.

8 MS. HARRIS: I don't have much to say about this at
9 all, Judge. I'm not going to open up argument on this.

10 I just wanted to note one thing for the record, the
11 more significant thing I wanted to address today with everyone
12 here relates to my client's custody situation. That's the
13 biggest topic.

14 THE COURT: Yes. Yes. And we may want to have a
15 little more discussion of that like the morning we pick the
16 jury, but with respect to -- all I wanted to know now was
17 whether you had any argument for suppression based on or
18 relating to the March 20 warrant because otherwise the March 20
19 warrant provided probable cause to search the phone and
20 described the phone with, in my view, sufficient particularity.
21 That's why I put the question.

22 MS. HARRIS: I agree with respect to that issue, your
23 Honor. There was one sort of secondary issue that we raised
24 even with respect to the first warrant, which I think still
25 applies with respect to the second, which is an issue I often

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1 bring to the Court's attention in the warrants for cell phones,
2 which is that the probable cause that was articulated relates
3 to -- that this phone was used to communicate with the
4 undercover who was purchasing narcotics, correct? So they knew
5 that it was the phone that had been used to receive and make
6 phone calls with this CI. And that's it.

7 And so probable cause is, of course, location
8 specific, which means cell phones are not just like small
9 objects any more. They're like an entire office or someone's
10 personal office, and the question is if you have probable cause
11 to seize records relating to those phone calls, do you have
12 probable cause to rummage through photographs? Do you have
13 probable cause to rummage through email accounts, when there's
14 nothing about the probable cause that's been demonstrated in
15 the warrant application that relates to those particular
16 categories. It's almost like different file cabinets, right,
17 in an office? It's even more than that because they're
18 quantitatively different. It's not just a question of where it
19 is.

20 So, at this juncture the government's only offering or
21 appears to be offering text messages from the phone. I would
22 preserve my objection to text messages that there's no
23 demonstrative probable cause.

24 THE COURT: I'm glad you stated that on the record,
25 and if things turn out differently than it now appears, we will

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1 have to reach that issue.

2 MS. HARRIS: That's really it with respect to the
3 second warrant.

4 THE COURT: That's very helpful. All right.

5 Since I can't bear to let you go, I will mention very
6 quickly my procedures for picking the jury.

7 We will be down in the jury room because of the
8 pandemic. I will question the jurors basically to determine
9 whether there's any reason to excuse a juror for cause. That's
10 really what I'm concerned with. you're free to submit in
11 advance proposed voir dire, but to tell you, and to be frank, I
12 at this point after 25 years pretty much know which questions
13 I'm going to ask and which I'm not. The defense will have ten
14 peremptory; the government six. We will do this in rounds. In
15 each round for the first four rounds, it will be one challenge
16 for the government, two challenges for the defense. Then last
17 two rounds, it's one and one.

18 Then we will pick three alternates. One round of
19 challenges, but in those challenge there will be one challenge
20 for the government, two challenges for the defense.

21 It usually takes me about between an hour and an hour
22 and a half to pick a jury, never more than that, so we will
23 then -- we will meet first in the courtroom, which is 24B at
24 9:30 on the first day of trial. The jury panel is usually
25 available by 10:30, so we can use that hour for anything else

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1 that we need to discuss. The jury will then be picked by about
2 11:30 to 12:00. If it's closer to 12:00, we'll excuse them for
3 an early lunch. If it's closer to 11:30, we'll go straight
4 back to the courtroom.

5 Either way, we will have opening arguments. I never
6 allow more than a half hour per side for opening arguments.
7 You're welcome to have less than that, and often it is less
8 than that, but the maximum is a half hour. Then we'll turn to
9 the first witness. So the government should have their first
10 witness ready to go.

11 Okay. Anything else we need to take up today? Yes?

12 MS. HARRIS: Yes, your Honor. So the issue I wanted
13 to raise for the Court is that we found out, I think it was on
14 Monday, right, that Mr. Scales was transferred from the MDC
15 back to the MCC. And just by way of background, Mr. Scales for
16 most of this time during the pendency of the case at the MCC.
17 And literally about three or five days after we received the
18 3500 material, which consists of, including over 4- to 500
19 pages of little handwritten notes from the prosecutors
20 detailing their various debriefings with the cooperating
21 witnesses, he was placed in a quarantine unit at the MDC. And
22 despite various entreaties and efforts by all parties, both the
23 government and the defense, we weren't able to meet with him in
24 person for two and a half weeks. We sort of took that in
25 stride and doubled down --

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1 THE COURT: I'm sorry. Forgive me for interrupting
2 which I have a terrible tendency to do, as you may have
3 noticed. What's your application?

4 MS. HARRIS: The problem is I need to -- so, we've
5 been reviewing and basically meeting with Mr. Scales three
6 times a week for many hours every day because he cannot have
7 the 3500 material with him in person, so we have to review it
8 with him with one of us.

9 THE COURT: I understand. What's your application?

10 MS. HARRIS: Here's the issue. I don't know what the
11 application is because we're at a loss what to do. He's now
12 been transferred back to the MCC, and because of that --
13 because of trial, obviously, but because of that, BOP policy is
14 the put him on quarantine again. The government's been
15 helpful. We both talked to Nicole McFarland at the MCC.

16 THE COURT: Is he vaccinated?

17 MS. HARRIS: He is not, your Honor.

18 THE COURT: That's because he's basically irrational,
19 stupid, and absurd?

20 MS. HARRIS: Your Honor, I think that's -- given where
21 he has been and what he's endured at the jail --

22 THE COURT: He feels that he should put himself and
23 all his fellow prisoners in jeopardy of a serious illness?
24 What's his reason for that? What's his reason?

25 MS. HARRIS: Your Honor, I --

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1 THE COURT: I think the reason is that he listens to
2 the nonsense that permeates the jails and prisons of the United
3 States, and that has already led to the death of many
4 prisoners, than to science and rationality and common sense.
5 So I suggest he gets vaccinated; but I can't order that. But I
6 will certainly remember it if he fails to do so because if he
7 should be convicted -- and I hope of course that he is
8 acquitted if he is not guilty -- but if he should be convicted,
9 I will have to consider what kind of human being he is, the
10 kind who likes to put other people in jeopardy of disease.

11 MS. HARRIS: Can I --

12 THE COURT: What order would you like? I'm happy to
13 sign any order you want to make him available to you under
14 virtually any conditions you like, but you have to tell me what
15 order you want.

16 MS. HARRIS: I want an order permitting us to visit
17 during the requested scheduled visits that we had in place this
18 week, which was Wednesday --

19 THE COURT: Prepare an order, submit it tomorrow; and
20 if it looks fine, I will sign it.

21 MS. HARRIS: Your Honor, the other issue is the other
22 aspect of the order is that he was taken from the MDC without
23 told where he was going to go. He wasn't able to pack up his
24 belongings. The government had sent discovery, which
25 supposedly arrived at the MDC on Thursday, but never got into

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1 his hands.

2 THE COURT: Does the government know anything about
3 this?

4 MR. BALSAMELLO: Last we heard, the MCC, Nicole
5 McFarland, I believe it was, said they were tracking the
6 packages. They were trying to locate them.

7 THE COURT: Here is what I will undertake to do for
8 defense counsel.

9 First, present an order.

10 Second, assuming the order is fine, I'll sign it.

11 If there's still further problems or if you don't
12 really know what to put in the order because you're uncertain,
13 then I will call the warden and inquire on your behalf. All
14 right?

15 MS. HARRIS: Yes, your Honor.

16 THE COURT: Anything else?

17 MR. BALSAMELLO: Not from the government.

18 MS. HARRIS: Nothing further, Judge.

19 THE COURT: Very good.

20 MS. HARRIS: I would just note that I think the
21 story -- and I worked a lot with the inmates who were obviously
22 at great risk during the pandemic, and I would note that the
23 issues in the jail are very complicated with respect to the
24 medical care, and so I just want to note that --

25 THE COURT: I have nothing but sympathy for all the

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1 tremendous hardships that prisoners were put to by the
2 pandemic, and I have given that in writing as a reason for
3 reducing sentences through compassionate release motions and
4 also for not in brand new sentences imposing as great a
5 sentence as I otherwise would impose. But I cannot understand
6 why prisoners having lived through all those difficulties don't
7 understand that the best thing they could do for themselves and
8 for their fellow prisoners is to get vaccinated. That is truly
9 in my view irrational and -- well, you hear what I'm saying.

10 MS. HARRIS: I do, your Honor. I understand, and
11 obviously I share the view of the rational folks of the world
12 who are vaccinated. I think with respect to individuals who
13 are incarcerated and the trust and lack of trust of the
14 healthcare system and the people who are guarding them, many of
15 the guards themselves who are supposed to be the models didn't
16 wear masks properly during much of the pandemic and the rates
17 of vaccination among the guards is very low, so there is a
18 culture that we don't share --

19 THE COURT: I agree, it's a --

20 MS. HARRIS: It's complicated.

21 THE COURT: No, I would say it's not complicated.
22 It's really not complicated. What you're talking about is that
23 in every society there are groups who would prefer for
24 emotional reasons or because of suspicions or whatever to
25 attach themselves to plainly despicable and irrational notions

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1 and then be able to say but that's the way I feel, that's
2 what's important to me. Fine. But I won't hesitate to take it
3 into account if there is a sentence in this case.

4 MS. HARRIS: I understand, Judge. And if and when
5 that day comes, we can address this more fully, but I would
6 just ask the Court not to prejudge his reasons for the
7 circumstances that led to that; and if and when we get to that
8 point, we'll certainly discuss it again.

9 THE COURT: Very good.

10 MS. HARRIS: Thank you, Judge.

11 (Adjourned)
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